

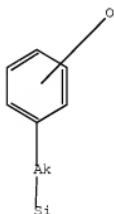
10/593004

\*\*\*\*\* QUERY RESULTS \*\*\*\*\*

=> d his 128

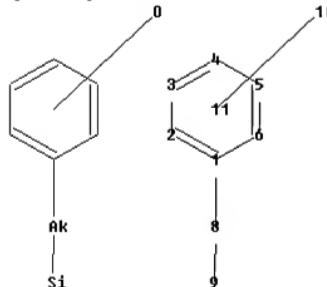
(FILE 'HCAPLUS' ENTERED AT 14:12:25 ON 27 JUL 2009)  
L28 54 S L20 OR L27  
SAVE TEMP L28 LEE004HCAP/A

=> d que 128  
L3 STR



Structure attributes must be viewed using STN Express query preparation:

Uploading L1.str

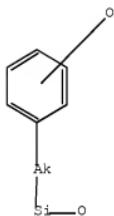


chain nodes :  
8 9 10  
ring nodes :  
1 2 3 4 5 6  
chain bonds :  
1-8 8-9  
ring bonds :  
1-2 1-6 2-3 3-4 4-5 5-6  
exact/norm bonds :  
1-8 8-9  
normalized bonds :  
1-2 1-6 2-3 3-4 4-5 5-6  
isolated ring systems :  
containing 1 :

Match level :

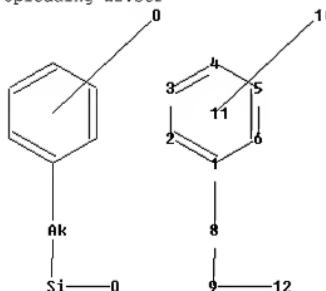
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:Atom

L5 5614 SEA FILE=REGISTRY SSS FUL L3  
 L8 STR



Structure attributes must be viewed using STN Express query preparation:

Uploading L2.str



chain nodes :

8 9 10 12

ring nodes :

1 2 3 4 5 6

chain bonds :

1-8 8-9 9-12

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

1-8 8-9

exact bonds :

9-12

normalized bonds :  
 1-2 1-6 2-3 3-4 4-5 5-6  
 isolated ring systems :  
 containing 1 :

Match level :  
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:Atom  
 12:CLASS  
 Element Count :  
 Node 8: Limited  
 C,C1-5

L10                   SCR 2043  
 L12    1099 SEA FILE=REGISTRY SUB=L5 SSS FUL L8 AND L10  
 L14    594 SEA FILE=HCAPLUS ABB=ON PLU=ON L12  
 L15    483 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 AND (AY<2005 OR PY<2005  
       OR PRY<2005)  
 L16    278 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND 74/SC, SX  
 L19    26352 SEA FILE=HCAPLUS ABB=ON PLU=ON RESISTS+OLD, UF/CT  
 L20    27 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND L19  
 L26    65758 SEA FILE=HCAPLUS ABB=ON PLU=ON RESIST? (2A) (COMPOSITION? OR  
       SOLUTION? OR FORMUL? OR ELECTRON BEAM?)  
 L27    36 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND L26  
 L28    54 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 OR L27

=> d 128 1-54 ibib abs fhitstr hitind

L28 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2007:118066 HCAPLUS Full-text  
 DOCUMENT NUMBER: 146:163976  
 TITLE: Weatherable, thermostable polymers having improved  
       flow composition, polymer manufacture, thermoplastic  
       composition and molded article  
 INVENTOR(S): Davis, Gary C.; Mullen, Brian D.; Sybert, Paul D.  
 PATENT ASSIGNEE(S): General Electric Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 40pp., Cont.-in-part of U.S.  
       Ser. No. 25,635.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070027271	A1	20070201	US 2006-426680	20060627 <--
US 6306507	B1	20011023	US 1999-368706	19990805 <--
US 20030072945	A1	20030417	US 2001-908396	20010718 <--
US 6610409	B2	20030826		
US 20030207123	A1	20031106	US 2002-307873	20021202 <--
US 6861482	B2	20050301		
US 40508	E1	20080916	US 2003-641029	20030815 <--

US 20050159577	A1	20050721	US 2004-25635	20041229 <--
US 7169859	B2	20070130		
US 20070129492	A1	20070607	US 2006-537154	20060929 <--
WO 2008002757	A1	20080103	WO 2007-US70669	20070608
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 2032624	A1	20090311	EP 2007-784364	20070608
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
KR 2009021194	A	20090227	KR 2008-731666	20081226
PRIORITY APPLN. INFO.:			US 1999-134692P	P 19990518 <--
			US 1999-368706	A2 19990805 <--
			US 2001-908396	A2 20010718 <--
			US 2002-307873	A2 20021202 <--
			US 2004-25635	A2 20041229 <--
			US 2000-656208	E 20000906 <--
			US 2006-426680	A2 20060627
			US 2006-821598P	P 20060807
			WO 2007-US70669	W 20070608

AB A copolymer composition comprises a polysiloxane block having 4-50 siloxane units, and a polyarylate-polycarbonate block consisting essentially of 50-99 mol% arylate polyester units and 1-50 mol% aromatic carbonate units, where 1-30 mol% of the aromatic carbonate units are resorcinol carbonates, and 0-35 mol% of the aromatic carbonate units are bisphenol carbonates; where the sum of mole percentages of arylate polyester units, and aromatic carbonate units is 100 mol%; the polysiloxane blocks connect to an arylate ester unit, and/or an aromatic carbonate unit; the siloxane units of the polysiloxane block are present at 0.2-10% based on weight of the copolymer composition. A molded article of 3.2 ± 0.12 mm thickness consists of the copolymer composition and has a percent transmittance ≥70%, according to ASTM D1003-00.

IT 858951-09-4P

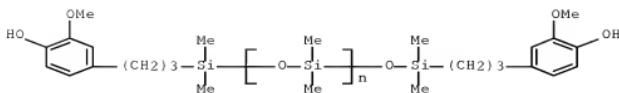
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

RN 858951-09-4 HCPLUS

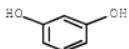
CN 1,3-Benzene dicarbonyl dichloride, polymer with 1,4-benzenedicarbonyl dichloride, 1,3-benzenediol, carbonic dichloride,  $\alpha$ -[[3-(4-hydroxy-3-methoxyphenyl)propyl]dimethylsilyl]- $\omega$ -[[3-(4-hydroxy-3-methoxyphenyl)propyl]dimethylsilyl]oxy]poly[oxy(dimethylsilyl ene)] and 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1

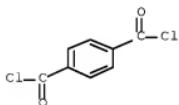
CRN 163617-00-3  
CMF (C2 H6 O Si)n C24 H38 O5 Si2  
CCI PMS



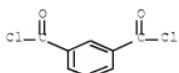
CM 2

CRN 108-46-3  
CMF C6 H6 O2

CM 3

CRN 100-20-9  
CMF C8 H4 Cl2 O2

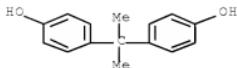
CM 4

CRN 99-63-8  
CMF C8 H4 Cl2 O2

CM 5

CRN 80-05-7

CMF C15 H16 O2



CM 6

CRN 75-44-5

CMF C C12 O



INCL 525446000; 525464000; 528029000

CC 37-3 (Plastics Manufacture and Processing)

IT Polysiloxanes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polycarbonate-polyester-; weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

IT Polyesters, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polycarbonate-siloxane-; weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-siloxane-; weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

IT Impact-resistant materials

Transparent materials  
 (weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

IT 858951-09-4P 858951-11-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (weatherable, thermostable polycarbonate polyester siloxane having improved flow composition and impact resistance)

L28 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:1049149 HCAPLUS Full-text

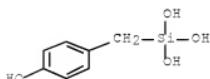
DOCUMENT NUMBER: 143:356596

TITLE: Negative-working resist composition  
 containing polysilsesquioxane

INVENTOR(S): Ando, Tomoyuki  
 PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005266474	A	20050929	JP 2004-80481	20040319 <--
JP 4294521	B2	20090715		
WO 2005091073	A1	20050929	WO 2005-JP4326	20050311 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1726992	A1	20061129	EP 2005-720597	20050311 <--
R: DE				
US 20080241753	A1	20081002	US 2006-593004	20060914 <--
PRIORITY APPLN. INFO.:			JP 2004-80481	A 20040319 <--
			WO 2005-JP4326	W 20050311
AB	Disclosed is a neg.-working resist composition comprising (a) a silsesquioxane resin having units of $[\text{Si}(-\text{R}1-\text{C6H4-OH})_3/2]$ ( $\text{R}1 = \text{C1-5 alkylene}$ ) and $[\text{SiPh}_3/2]$ , (b) an acid-generating compound, and (c) a crosslinking agent.			
IT 188557-77-9P				
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (neg.-working electron-beam resist composition containing polysilsesquioxane)				
RN 188557-77-9 HCPLUS				
CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)				

CM 1

CRN 188557-76-8  
 CMF C7 H10 O4 Si

IC ICM G03F007-038  
 ICS C08G077-16; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38

ST neg working electron beam resist  
compr polysilsesquioxane  
IT Electron beam resists  
Resists  
(neg.-working electron-beam resist  
composition containing polysilsesquioxane)  
IT Silsesquioxanes  
RL: TEM (Technical or engineered material use); USES (Uses)  
(neg.-working electron-beam resist  
composition containing polysilsesquioxane)  
IT 66003-78-9, Triphenylsulfonium trifluoromethane sulfonate 138529-81-4,  
Bis(cyclohexylsulfonyl)diazomethane 144317-44-2, Triphenylsulfonium  
nonafluorobutane sulfonate 357164-86-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(acid-generating agent; neg.-working electron-beam  
resist composition containing polysilsesquioxane)  
IT 3089-11-0 4356-60-9 17464-88-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(crosslinker; neg.-working electron-beam  
resist composition containing polysilsesquioxane)  
IT 188557-77-9P 475115-04-9P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(neg.-working electron-beam resist  
composition containing polysilsesquioxane)  
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)

L28 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2005:641929 HCAPLUS Full-text  
DOCUMENT NUMBER: 143:134122  
TITLE: Weatherable, thermostable polycarbonate polyesters  
having improved flow composition and impact  
resistance  
INVENTOR(S): Davis, Gary C.; Mullen, Brian D.; Sybert, Paul D.  
PATENT ASSIGNEE(S): General Electric Company, USA  
SOURCE: U.S. Pat. Appl. Publ., 32 pp., Cont.-in-part of U.S.  
Ser. No. 307,873.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 10  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050159577	A1	20050721	US 2004-25635	20041229 <--
US 7169859	B2	20070130		
US 6306507	B1	20011023	US 1999-368706	19990805 <--
US 20030072945	A1	20030417	US 2001-908396	20010718 <--
US 6610409	B2	20030826		
US 20030207123	A1	20031106	US 2002-307873	20021202 <--
US 6861482	B2	20050301		
US 40508	E1	20080916	US 2003-641029	20030815 <--
US 20070027271	A1	20070201	US 2006-426680	20060627 <--
US 20070129492	A1	20070607	US 2006-537154	20060929 <--
US 20070122627	A1	20070531	US 2007-627828	20070126 <--
PRIORITY APPLN. INFO.:				
			US 1999-134692P	P 19990518 <--
			US 1999-368706	A2 19990805 <--
			US 2001-908396	A2 20010718 <--

US 2002-307873	A2 20021202 <--
US 2000-656208	E 20000906 <--
US 2001-966127	A2 20010928 <--
US 2004-25635	A2 20041229 <--
US 2006-426680	A2 20060627
US 2006-821598P	P 20060807

AB A copolymer composition comprises an arylate polyester unit, an aromatic carbonate unit, and a soft-block moiety, wherein individual occurrences of the soft block moiety are linked by a spacer unit comprising one or more of the arylate polyester units, one or more of the aromatic carbonate units, or a combination comprising each of these. In one embodiment, a soft block moiety comprises a polysiloxane unit. A film of the composition has a percent transmittance of greater than or equal to 60%, and good low temperature impact strength. A method of forming a copolymer composition is disclosed, comprising substantially forming the bis-haloformates of a dihydroxy compound comprising an arylate polyester unit, and a dihydroxy compound comprising a soft-block moiety, and reacting the bis haloformates with a dihydroxy aromatic compound

IT 858951-09-4P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)

RN 858951-09-4 HCPLUS

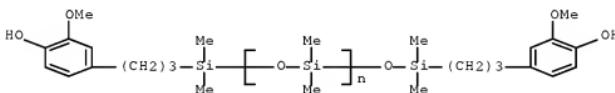
CN 1,3-Benzenedicarbonyl dichloride, polymer with 1,4-benzenedicarbonyl dichloride, 1,3-benzenediol, carbonic dichloride,  
α-[{3-(4-hydroxy-3-methoxyphenyl)propyl]dimethylsilyl]-ω-[[{3-(4-hydroxy-3-methoxyphenyl)propyl]dimethylsilyl}oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1

CRN 163617-00-3

CMF (C<sub>2</sub> H<sub>6</sub> O Si)n C<sub>24</sub> H<sub>38</sub> O<sub>5</sub> Si<sub>2</sub>

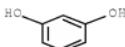
CCI PMS



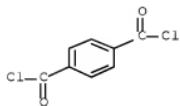
CM 2

CRN 108-46-3

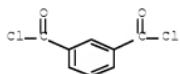
CMF C<sub>6</sub> H<sub>6</sub> O<sub>2</sub>



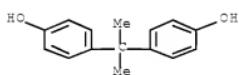
CM 3

CRN 100-20-9  
CMF C8 H4 Cl2 O2

CM 4

CRN 99-63-8  
CMF C8 H4 Cl2 O2

CM 5

CRN 80-05-7  
CMF C15 H16 O2

CM 6

CRN 75-44-5  
CMF C Cl12 O

IC ICM C08G064-00  
 INCL 528198000  
 CC 37-3 (Plastics Manufacture and Processing)  
 IT Polysiloxanes, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polycarbonate-polyester-; weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)  
 IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polycarbonate-siloxane-; weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)  
 IT Polycarbonates, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-siloxane-; weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)  
 IT Impact-resistant materials  
 Transparent materials  
 (weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)  
 IT 858951-09-4P 858951-11-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (weatherable, thermostable polycarbonate polyesters having improved flow composition and impact resistance)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
 (3 CITINGS)  
 REFERENCE COUNT: 96 THERE ARE 96 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2005:347109 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:393243  
 TITLE: Polycarbonate resin composition and optical part  
 INVENTOR(S): Kawato, Hiroshi; Horio, Yoshihiko; Ishikawa, Yasuhiro  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 28 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005035659	A1	20050421	WO 2004-JP14638	20041005 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

JP 2005112963	A	20050428	JP 2003-347829	20031007 <--
DE 112004001816	T5	20060824	DE 2004-112004001816	20041005 <--
CN 1863871	A	20061115	CN 2004-80029510	20041005 <--
CN 100393803	C	20080611		
US 20070037906	A1	20070215	US 2006-573809	20060328 <--
US 7553893	B2	20090630		
KR 2006131736	A	20061220	KR 2006-706646	20060406 <--
PRIORITY APPLN. INFO.:			JP 2003-347829	A 20031007 <--
			WO 2004-JP14638	W 20041005 <--

AB The composition comprises polycarbonate resin 100, arylphosphine (e.g.,  $\text{PF}_3$ ) 0.001-0.1, alicyclic epoxy compound 0.01-1.0 part, and optionally 0.01-1.0 part of an acrylic resin. The composition exhibits excellent optical properties, resistance to high temperature, high humidity, heat aging (especially high temperature aging), heat, and impact. The composition is suitable for production of optical parts, such as a lens of optical semiconductor device mounted on vehicles which can be used even in especially severe environment.

IT 161109-50-8P

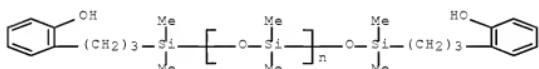
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

RN 161109-50-8 HCPLUS

CN Carbonic dichloride, polymer with  $\alpha$ -[3-(2-hydroxyphenyl)propyl]dimethylsilyl- $\omega$ -[(3-(2-hydroxyphenyl)propyl)dimethylsilyloxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

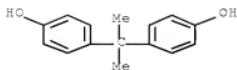
CM 1

CRN 158167-48-7  
 CMF (C2 H6 O Si)n C22 H34 O3 Si2  
 CCI PMS



CM 2

CRN 80-05-7  
 CMF C15 H16 O2



CM 3

CRN 75-44-5

CMF C C12 O



IC ICM C08L069-00

ICS C08K005-1515; C08K005-50

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 73

IT Epoxy resins, uses

RL: MOA (Modifier or additive use); USES (Uses)  
 (alicyclic; impact-, moisture-, heat- and aging-resistant  
 polycarbonate resin compns. for optical parts)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (cardo; impact-, moisture-, heat- and aging-resistant  
 polycarbonate resin compns. for optical parts)

IT Lenses

Optical instruments  
 (impact-, moisture-, heat- and aging-resistant polycarbonate  
 resin compns. for optical parts)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (impact-, moisture-, heat- and aging-resistant polycarbonate  
 resin compns. for optical parts)

IT Polysiloxanes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (polycarbonate; impact-, moisture-, heat- and aging-resistant  
 polycarbonate resin compns. for optical parts)

IT Cardo polymers

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (polycarbonates; impact-, moisture-, heat- and aging-resistant  
 polycarbonate resin compns. for optical parts)

IT Polycarbonates, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polysiloxane-; impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

IT 305321-96-4  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (assumed monomers; impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

IT 41120-30-3P, 1,1-Bis(4-hydroxyphenyl)cyclohexane-bisphenol A-phosgene copolymer 161109-50-8P 172682-69-8P, 9,9-Bis(4-hydroxy-3-methylphenyl)fluorene-bisphenol A-phosgene copolymer 849773-95-1P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

IT 603-35-0, JC 263, uses 9011-14-7, PMMA 25085-98-7, Celloxide 2021P 70563-26-7, Dianal BR 83  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

IT 304853-19-8, Toughlon FN 1700A  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (impact-, moisture-, heat- and aging-resistant polycarbonate resin compns. for optical parts)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

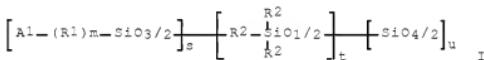
L28 ANSWER 5 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2005:99555 HCPLUS Full-text  
 DOCUMENT NUMBER: 142:177712  
 TITLE: Alkali-soluble silicon-containing polymer, its production and heat-resistant resin composition and heat-resistant film using it  
 INVENTOR(S): Tauchi, Kunikazu; Suzuki, Hiroshi  
 PATENT ASSIGNEE(S): Toagosei Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 48 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005010077	A1	20050203	WO 2004-JP10853	20040729 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,			

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

EP 1650250	A1	20060426	EP 2004-748064	20040729 <--
R: DE, GB				
CN 1829762	A	20060906	CN 2004-80021734	20040729 <--
CN 100430432	C	20081105		
CN 101255233	A	20080903	CN 2008-10091732	20040729 <--
KR 2006052926	A	20060519	KR 2006-701936	20060127 <--
US 20070134424	A1	20070614	US 2006-565682	20060628 <--
PRIORITY APPLN. INFO.:			JP 2003-203411	A 20030729 <--
			JP 2003-203412	A 20030729 <--
			CN 2004-80021734	A3 20040729 <--
			WO 2004-JP10853	W 20040729 <--

GI



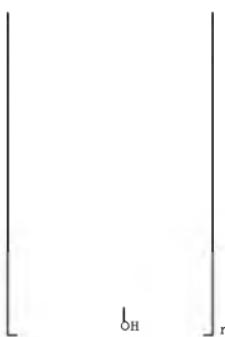
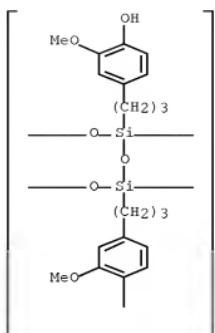
AB The polymer is of I type compound (Al = Ph having hydroxy or alkoxy; R1 = C1-4 alkylene; m = 0 or 1; R2 = C1-4 alkyl; s, u = pos. number; t = 0 or pos. number; provided that  $0 \leq t/(s+u) \leq 1$  and  $0 < u/s \leq 5$ ) and has a weight-average mol. weight of 500 to 500,000. The polymer can be prepared by the hydrolytic condensation of s-mol of Al(R1)mSiM13 with t-mol of R23SiM2 (M2 = hydrolyzable groups) and u-mol of SiM34 (M3 = hydrolyzable groups). Thus, heating 3-(3-methoxy-4-hydroxyphenyl)propyltriethoxysilane 65.7 with tetraethoxysilane 33.3, hexamethyldisiloxane 3.2 and PhMe 10 at 70° with stirring, adding a mixture of water 20, concentrate HCl 0.5 and ethanol 10 g into the mixture above over 1 h and heating at reflux for 4 h gave a polymer after workup. The polymer had Mw 8.5x103, Mn 4.4x103 and softening temperature 95-100°.

IT 402789-60-0P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (manufacture of alkali-soluble silicon-containing polymers and heat-resistant films  
 made from them)

RN 402789-60-0 HCAPLUS

CN Poly[1,3-bis[3-(4-hydroxy-3-methoxyphenyl)propyl]-1,3-disiloxanediylidene]-1,3-bis(oxyl)] (9CI) (CA INDEX NAME)



IC ICM C08G077-14  
 ICS C08G077-20; G03F007-075  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38, 76  
 IT 107-46-0DP, Hexamethyldisiloxane, polysiloxanes terminated with  
 3277-26-7DP, 1,1,3,3-Tetramethyldisiloxane, polysiloxanes terminated with  
 402789-60-0P 833480-43-6DP, trimethylsilyl-terminated  
 833480-43-6P 833480-44-7P 833480-45-8DP,  
 trimethylsilyl-terminated 833480-46-9DP, trimethylsilyl- or  
 dimethylsilyl-terminated 833480-46-9P 833480-47-0DP, trimethylsilyl-  
 or dimethylsilyl-terminated 833480-47-0P 833480-48-1DP,  
 trimethylsilyl-terminated 833480-49-2DP, trimethylsilyl-terminated

833480-50-5DP, dimethylsilyl-terminated  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (manufacture of alkali-soluble silicon-containing polymers and heat-  
 resistant films  
 made from them)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (3 CITINGS)  
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 6 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2004:995697 HCPLUS Full-text  
 DOCUMENT NUMBER: 141:429657  
 TITLE: Positive resist composition  
 INVENTOR(S): Yasunami, Shoichiro; Mizutani, Kazuyoshi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan; Fujifilm Corporation  
 SOURCE: U.S. Pat. Appl. Publ., 24 pp.  
 CODEN: USXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040229161	A1	20041118	US 2004-840624	20040507 <--
US 7217493	B2	20070515		
JP 2004334107	A	20041125	JP 2003-133194	20030512 <--
JP 4262516	B2	20090513		

PRIORITY APPLN. INFO.: JP 2003-133194 A 20030512 <--  
 AB A pos. resist composition comprises (A) polysiloxane or polysilsesquioxane  
 that has a property of increasing solubility in an alkali developing solution  
 by the action of an acid and contains a group capable of being decomposed with  
 an acid, (B) a compound that generates a sulfonic acid upon irradiation of an  
 actinic ray or radiation and (C) an organic basic compound, wherein an amount  
 of the compound that generates a sulfonic acid upon irradiation of an actinic  
 ray or radiation is 6-20% by weight based on the total solid content of the  
 pos. resist composition. The object of the present invention is to provide a  
 pos. resist composition that simultaneously satisfies high sensitivity, high  
 resolution and good line edge roughness and can be used in lithog. using an  
 electron beam, an x-ray or an EUV beam.

IT 199125-55-8  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)

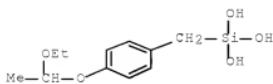
(resin; pos. resist composition comprising polysiloxane  
 or silsesquioxane)

RN 199125-55-8 HCPLUS

CN Silanetriol, [[4-(1-ethoxyethoxy)phenyl]methyl]-, polymer with  
 [(4-hydroxyphenyl)methyl]silanetriol (9CI) (CA INDEX NAME)

CM 1

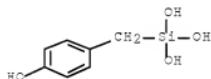
CRN 199125-54-7  
 CMF C11 H18 O5 Si



CM 2

CRN 188557-76-8

CMF C7 H10 O4 Si



IC ICM G03C001-76

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST pos resist compn EUV electron x ray polysiloxane

IT Positive photorests

(UV; pos. resist composition comprising polysiloxane or silsesquioxane)

IT Electron beam resists

(pos. resist composition comprising polysiloxane or silsesquioxane)

IT Polysiloxanes, properties

Silsesquioxanes

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos. resist composition comprising polysiloxane or silsesquioxane)

IT 102-86-3, Tri-n-hexylamine 124-40-3, N,N-Dimethylamine, uses 2052-49-5, Tetra-(n-butyl)ammonium hydroxide

RL: TEM (Technical or engineered material use); USES (Uses)  
(basic compound; pos. resist composition comprising polysiloxane or silsesquioxane)IT 13891-29-7 39153-56-5 66003-78-9 144089-15-6 144317-44-2  
153698-46-5 194999-85-4 197447-16-8 301664-71-1 335199-99-0RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(photoacid generator; pos. resist composition comprising polysiloxane or silsesquioxane)

IT 19600-49-8 365971-71-7 365971-72-8

RL: TEM (Technical or engineered material use); USES (Uses)  
(pos. resist composition comprising polysiloxane or silsesquioxane)IT 341972-61-0DP, reaction products with Et vinyl ether 795296-88-7DP,  
reaction products with Et vinyl ether 795296-90-1DP, reaction products with Et vinyl ether

RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin; pos. resist composition comprising polysiloxane  
 or silsesquioxane)

IT 341972-66-5DP, reaction products with Et vinyl ether 341972-68-7DP,  
 reaction products with ether derivs.

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin; pos. resist composition comprising polysiloxane  
 or silsesquioxane)

IT 109-92-2D, Ethyl vinyl ether, reaction products with polysiloxanes or polysilsesquioxane 199125-55-8 341972-75-6 376600-50-9  
 376600-56-5 795296-87-6

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (resin; pos. resist composition comprising polysiloxane  
 or silsesquioxane)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 7 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2004:534428 HCPLUS Full-text  
 DOCUMENT NUMBER: 141:79326  
 TITLE: Chemical amplification type silicone base positive  
 photoresist composition  
 INVENTOR(S): Hirayama, Taku; Yamada, Tomotaka; Kawana, Daisuke;  
 Tamura, Kouki; Sato, Kazufumi  
 PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004055598	A1	20040701	WO 2003-JP15344	20031201 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003302990	A1	20040709	AU 2003-302990	20031201 <--
DE 10393820	T5	20051027	DE 2003-10393820	20031201 <--
TW 282040	B	20070601	TW 2003-92133901	20031202 <--
US 20060003252	A1	20060105	US 2005-537290	20050622 <--
PRIORITY APPLN. INFO.:				
AB			JP 2002-350563	A 20021202 <--
			JP 2003-46611	A 20030224 <--
			JP 2003-190618	A 20030702 <--
			WO 2003-JP15344	W 20031201 <--

AB A chemical amplification type silicone base pos. resist composition that can be produced from easily procurable compds. as raw materials through simple

means and can provide a bilayer resist material from which fine pattern of high resolution, high aspect ratio, desirable sectional morphol. and low line edge roughness can be formed. In particular, a chemical amplification type pos. resist compn. comprising alkali soluble resin (A) and photoacid generator (B) wherein a ladder type silicone copolymer comprising (hydroxyphenylalkyl)silsesquioxane units (a1), (alkoxyphenylalkyl)silsesquioxane units (a2) and alkyl- or phenylsilsesquioxane units (a3) is used as the alkali soluble resin (A). The copolymer wherein in the component (A), the units (a3) are phenylsilsesquioxane units is a novel compound

IT 711008-00-3

RL: TEM (Technical or engineered material use); USES (Uses)  
(chemical amplification type silicone base pos. photoresist composition)

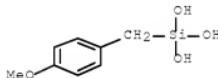
RN 711008-00-3 HCPLUS

CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, polymer with  
1-[(4-methoxyphenyl)methyl]silanetriol and 1-phenylsilanetriol (CA INDEX  
NAME)

CM 1

CRN 546114-67-4

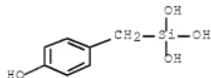
CMF C8 H12 O4 Si



CM 2

CRN 188557-76-8

CMF C7 H10 O4 Si



CM 3

CRN 3047-74-3

CMF C6 H8 O3 Si



IC ICM G03F007-11  
 ICS C08G077-14; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT 711008-00-3  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (chemical amplification type silicone base pos. photoresist composition)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
 (6 CITINGS)  
 REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 8 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:869229 HCPLUS Full-text  
 DOCUMENT NUMBER: 137:377441  
 TITLE: Photoimageable resist composition  
 containing specific polysilsesquioxane for bilayer  
 resist system  
 INVENTOR(S): Gronbeck, Dana A.; Barclay, George G.; Linehan, Leo  
 L.; Xiong, Kao; Kanagasabapathy, Subareddy  
 PATENT ASSIGNEE(S): Shipley Company, LLC, USA  
 SOURCE: PCT Int. Appl., 65 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002091083	A1	20021114	WO 2002-US14732	20020508 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
TW 594416	B	20040621	TW 2002-91109417	20020507 <--
AU 2002305499	A1	20021118	AU 2002-305499	20020508 <--
US 20030099899	A1	20030529	US 2002-140761	20020508 <--
US 6803171	B2	20041012		
EP 1407324	A1	20040414	EP 2002-734323	20020508 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2005507087	T	20050310	JP 2002-588280	20020508 <--
US 20050026077	A1	20050203	US 2004-924350	20040823 <--
PRIORITY APPLN. INFO.:			US 2001-289368P	P 20010508 <--
			US 2002-140761	A1 20020508 <--
			WO 2002-US14732	W 20020508 <--

AB Disclosed are photoimaging compns. containing silsesquioxane binder polymers and photoactive compds., methods of forming relief images using such compns. and methods of manufacturing electronic devices using such compns. Such

compns. are useful as photoresists and in the manufacture of optoelectronic devices.

IT 188557-77-9DP, reaction products with Et vinyl ether or cyclohexyl vinyl ether  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoimaging composition containing specific polysilsesquioxane)

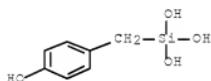
RN 188557-77-9 HCPLUS

CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8

CMF C7 H10 O4 Si



IC ICM G03F007-029

ICS G03F007-032; G03F007-004; G03C001-725

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 188557-77-9DP, reaction products with Et vinyl ether or cyclohexyl vinyl ether 188629-68-7DP, reaction products with Et vinyl ether or cyclohexyl vinyl ether 475134-60-2P, reaction products with cyclohexyl vinyl ether 475134-60-2P  
 475134-61-3P 475134-62-4P 475134-63-5DP, reaction products with cyclohexyl vinyl ether 475134-63-5P  
 475134-64-6P 475134-65-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photoimaging composition containing specific polysilsesquioxane)

IT 475115-04-9

RL: TEM (Technical or engineered material use); USES (Uses)

(photoimaging composition containing specific polysilsesquioxane)

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 9 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:799404 HCPLUS [Full-text](#)

DOCUMENT NUMBER: 139:60263

TITLE: Application of blends and side chain Si-O copolymers as high-etch-resistant sub-100-nm electron-beam resists

AUTHOR(S): Huang, Wu-Song; Kwong, Ranee W.; Moreau, Wayne M.; Lang, Robert; Medeiros, David R.; Petrillo, Karen E.; Mahorowala, Arpan P.; Angelopoulos, Marie; Lin, Qinghuang; Dai, Junyan; Ober, Christopher Kemper

CORPORATE SOURCE: IBM Microelectronics Div., Hopewell Junction, NY, 12533, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2002), 4690(Pt. 1,

Advances in Resist Technology and Processing XIX),  
432-441

CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Recently, there is a significant interest in using chemical amplified (CA) resists for electron-beam (E-Beam) applications including mask making, direct write, and projection printing. CA resists provide superior lithog. performance in comparison to traditional non CA E-beam resists in particular high contrast, resolution, and sensitivity. Due to the electron scattering effect and the image collapse problem, thinner imaging layer is desirable. Sufficient etch selectivity is needed to compensate reduced resist thickness. Therefore, there is a need to have a high etch resistant resist system which can survive Cr etch (Cl<sub>2</sub>/O<sub>2</sub> RIE etchant) process in mask making. For device making, the thin film bilayer approach needs a resist that can withstand O<sub>2</sub> etch for image transfer to the underlayer. The authors found Si-O containing polymer has the etch characteristics for both applications. In the first approach, using a blend of KRS-XE and silsesquioxane polymer, the authors have been able to resolve resist images down to 50 nm with etch rate 20% slower than conventional novolak I-line resist systems. In the second approach, we have investigated the copolymer of vinylphenol and acrylate siloxysilane systems. Superior litho performance and etch properties have been observed. In this presentation, the authors discuss the chemical, the miscibility in blends, etch characteristics and lithog. performance of these resist systems.

IT 188629-68-7D, partially protected

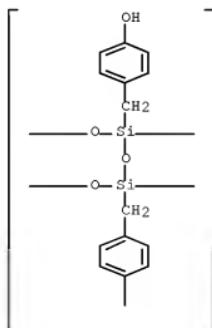
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)

(lithog. performance of high-etch-resistant sub-100-nm chemical amplification electron-beam resist containing blend of KRS-XE resist and hydroxybenzylsilsesquioxane polymer)

RN 188629-68-7 HCPLUS

CN Poly[(1,3-bis[(4-hydroxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST KRSXE silsesquioxane polymer blend electron beam lithog resist; vinylphenol acrylate siloxysilane polymer electron beam lithog resist

IT Electron beam resists  
(chemical amplification; etch resistant chemical amplified electron-beam resists based either on KRS-XE resist and hydroxybenzylsilsesquioxane polymer blends or side chain silicon-oxygen copolymers)

IT Photomasks (lithographic masks)  
(etch resistant chemical amplified electron-beam resists based either on KRS-XE resist and hydroxybenzylsilsesquioxane polymer blends or side chain silicon-oxygen copolymers)

IT Surface roughness  
(lithog. performance of high-etch-resistant sub-100-nm chemical amplification electron-beam resist containing blend of KRS-XE resist and hydroxybenzylsilsesquioxane polymer)

IT Silsesquioxanes  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(lithog. performance of high-etch-resistant sub-100-nm chemical amplification electron-beam resist containing blend of KRS-XE resist and hydroxybenzylsilsesquioxane polymer)

IT Etching  
(plasma; etch resistance of chemical amplified electron-beam resists based either on KRS-XE resist and hydroxybenzylsilsesquioxane polymer blends or side chain silicon-oxygen copolymers)

IT 75-59-2, Tetramethylammonium hydroxide  
RL: NUU (Other use, unclassified); USES (Uses)  
(developer; lithog. performance of high-etch-resistant sub-100-nm chemical amplification electron-beam resist containing blend of KRS-XE resist and hydroxybenzylsilsesquioxane polymer)

IT 547757-38-0DP, hydrolyzed, partially protected with ketal groups

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (etch resistant chemical amplified electron-beam resists based on copolymer of vinylphenol and acrylate siloxysilane)

IT 188629-68-7D, partially protected 302353-92-0, KRS-XE  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (lithog. performance of high-etch-resistant sub-100-nm chemical amplification electron-beam resist containing blend of KRS-XE resist and hydroxybenzylsilsesquioxane polymer)

IT 7782-44-7, Oxygen, uses 7782-50-5, Chlorine, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (plasma etch; etch resistance of chemical amplified electron-beam resists based either on KRS-XE resist and hydroxybenzylsilsesquioxane polymer blends or side chain silicon-oxygen copolymers)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:638185 HCAPLUS Full-text  
 DOCUMENT NUMBER: 137:192761  
 TITLE: Radiation sensitive silicon-containing negative resists and use thereof  
 INVENTOR(S): Angelopoulos, Marie; Aviram, Ari; Huang, Wu-Song; Kwong, Ranee W.; Lang, Robert N.; Lin, Qinghuang; Moreau, Wayne M.  
 PATENT ASSIGNEE(S): International Business Machines Corporation, USA  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020115017	A1	20020822	US 2001-785609	20010216 <--
US 6653045	B2	20031125		
US 20040048204	A1	20040311	US 2003-657168	20030909 <--
US 6821718	B2	20041123		

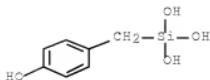
PRIORITY APPLN. INFO.: US 2001-785609 A3 20010216 <--  
 AB A neg. resist composition, comprises: (a) silicon-containing polymer with pendant fused moieties selected from the group consisting of fused aliphatic moieties, homocyclic fused aromatic moieties, and heterocyclic fused aromatic and sites for reaction with a crosslinking agent, (b) an acid-sensitive crosslinking agent, and (c) a radiation-sensitive acid generator. The resist composition is used to form a patterned material layer in a substrate.

IT 188557-77-9, 4-Hydroxybenzylsilanetriol homopolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (radiation sensitive silicon-containing neg. photoresists for photolithog. containing)

RN 188557-77-9 HCAPLUS  
 CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8  
 CME C7 H10 O4 Si



IC ICM G03F007-00  
 INCL 430270100  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT 1468-95-7, 9-Anthracene methanol 188557-77-9,  
 4-Hydroxybenzylsilanetriol homopolymer 188629-68-7  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (radiation sensitive silicon-containing neg. photoresists for photolithog.  
 containing)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
 (4 CITINGS)

L28 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2002:533964 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 137:101417  
 TITLE: Mask-making using resist having sio bond-containing polymer  
 INVENTOR(S): Angelopoulos, Marie; Aviram, Ari; Guarnieri, C.  
 Richard; Huang, Wu-song; Kwong, Ranee; Lang, Robert  
 N.; Mahorowala, Arpan P.; Medeiros, David R.; Moreau,  
 Wayne M.  
 PATENT ASSIGNEE(S): International Business Machines Corporation, USA  
 SOURCE: U.S., 9 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

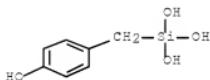
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6420084	B1	20020716	US 2000-602136	20000623 <--
PRIORITY APPLN. INFO.:			US 2000-602136	20000623 <--

AB The invention provides improved resist compns. and lithog. methods using the resist compns. which are acid-catalyzed resists characterized by the presence of an SiO-containing polymer. The invention also encompasses methods of forming patterned material layers (especially conductive, semiconductive, or magnetic material structures) using the combination of the SiO-containing resist and a halogen compound-containing pattern transfer etchant where the halogen is Cl, Br or I.  
 IT 188557-77-9DF, (4-Hydroxybenzyl)silanetriol homopolymer,  
 methoxycyclohexene or/and toluenesulfonate or camphorsulfonate or  
 adamantane carboxylic acid chloride protected  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (mask-making using resist having sio bond-containing polymer for

photolithog.)  
 RN 188557-77-9 HCPLUS  
 CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8  
 CME C7 H10 O4 Si



IC ICM G03F007-004  
 INCL 430270100  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 35, 38  
 IT 188557-77-9DP, (4-Hydroxybenzyl)silanetriol homopolymer, methoxycyclohexene or/and toluenesulfonate or camphorsulfonate or adamantane carboxylic acid chloride protected 188629-68-7DP, methoxycyclohexene or/and toluenesulfonate or camphorsulfonate or adamantane carboxylic acid chloride protected  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (mask-making using resist having sio bond-containing polymer for photolithog.)  
 OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)  
 REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 12 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2001:798707 HCPLUS [Full-text](#)  
 DOCUMENT NUMBER: 135:336925  
 TITLE: Resist composition for use in chemical amplification and method for forming a resist pattern thereof  
 INVENTOR(S): Kozawa, Miwa; Nozaki, Koji; Watanabe, Keiji; Yano, Ei  
 PATENT ASSIGNEE(S): Fujitsu Limited, Japan  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20010036594	A1	20011101	US 2001-785306	20010220 <--
US 20020177070	A1	20021128	US 2002-97818	20020315 <--
US 7122288	B2	20061017		
US 20060263723	A1	20061123	US 2006-492955	20060726 <--
US 7488569	B2	20090210		

PRIORITY APPLN. INFO.:

JP 2000-89790	A 20000328 <--
US 2001-785306	A2 20010220 <--
JP 2001-93727	A 20010328 <--
US 2002-97818	A3 20020315 <--

GI



I

AB Disclosed is a neg. resist composition comprising an alkaline-soluble resin and a compound having an oxetane structure I. This composition further comprises an acid generator and provides a fine resist pattern with high sensitivity at a wavelength of less than 200 nm. The resist composition can be used in both monolayer and bilayer resist methods, thereby meeting the requirements for high sensitivity at a shorter wavelength and etching resistance.

IT 370590-43-5P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(chemical amplification photoresist composition containing)

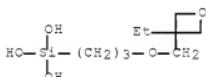
RN 370590-43-5 HCPLUS

CN Silicic acid, ethyl [2-(4-hydroxyphenyl)ethyl]dimethylsilyl trimethylsilyl ester, polymer with [3-[(3-ethyl-3-oxetanyl)methoxy]propyl]silanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 370588-69-5

CMF C9 H20 O5 Si



CM 2

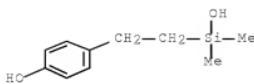
CRN 370590-42-4

CMF C10 H16 O2 Si . x C3 H10 O Si . x C2 H6 O . x Unspecified

CM 3

CRN 158036-17-0

CMF C10 H16 O2 Si



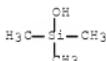
CM 4

CRN 1343-98-2  
 CMF Unspecified  
 CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 1066-40-6  
 CMF C3 H10 O Si



CM 6

CRN 64-17-5  
 CMF C2 H6 O



IC ICM G03F007-038  
 ICS G03F007-075; G03F007-004; G03F007-11; G03F007-36; G03F007-30;  
 G03F007-40  
 INCL 430270100  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 35, 38, 76  
 IT Photoresists  
 (chemical amplification resist composition containing siloxane  
 and oxetane structure resin for)  
 IT 220690-86-8P 370588-70-8P 370590-40-2P 370590-41-3P  
 370590-43-5P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (chemical amplification photoresist composition containing)  
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD

(4 CITINGS)

L28 ANSWER 13 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2001:390345 HCPLUS Full-text  
 DOCUMENT NUMBER: 135:12123  
 TITLE: Positive-working resist laminate and fine pattern  
 forming method using it  
 INVENTOR(S): Yasunami, Shoichiro  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001147538	A	20010529	JP 1999-331568	19991122 <--
JP 3967051	B2	20070829		

## PRIORITY APPLN. INFO.:

JP 1999-331568 19991122 &lt;--

AB In the laminate comprising a support successively coated with 1st resist layer and 2nd resist layer, (i) the 1st resist layer is heat-curable and contains a polymer having a repeating unit  $\text{CH}_2\text{R}_1(\text{CO}_2\text{a})\text{L}_1\text{bL}_2\text{cM}$  ( $\text{R}_1 = \text{H}$ , alkyl, halo;  $\text{L}_1\text{L}_2 =$  divalent linkage;  $\text{M} =$  aromatic ring;  $\text{a}, \text{b}, \text{c} = 0, 1$ ) and (ii) the 2nd layer contains (a) a polysiloxane or polysilsesquioxane having an acid-decomposable group and its solubility in an alkali developer increases by the action of an acid, and (b) a compound generating an acid by irradiation of an actinic ray or radiation. The fine pattern is formed by (1) forming the 1st resist layer on the substrate and curing it by heat, (2) forming the 2nd resist layer on the 1st resist layer and patternwise exposing it with an actinic ray or radiation and alkali developing the 2nd layer, and (3) etching the 1st resist layer using the 2nd resist layer as a mask. The laminate is suited for far UV exposure, shows high resolution and gives high accurate fine patterns and is useful for manufacture of semiconductor devices.

IT 199125-55-8

RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos.-working resist laminate comprising 1st layer containing acrylic polymer and 2nd layer containing polysiloxane and acid generator)

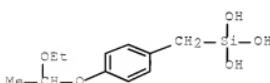
RN 199125-55-8 HCPLUS

CN Silanetriol, [(4-(1-ethoxyethoxy)phenyl)methyl]-, polymer with [(4-hydroxyphenyl)methyl]silanetriol (9CI) (CA INDEX NAME)

CM 1

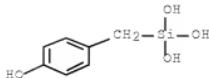
CRN 199125-54-7

CMF C11 H18 O5 Si



CM 2

CRN 188557-76-8  
 CME C7 H10 O4 Si



IC ICM G03F007-075  
 ICS G03F007-039; G03F007-095; G03F007-26  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 38, 76  
 IT Resist(s)  
 (pos.-working; pos.-working resist laminate comprising 1st layer containing  
 acrylic polymer and 2nd layer containing polysiloxane and acid generator)  
 IT 531-18-0, Hexamethylolmelamine 953-91-3, Cyclohexyl p-toluenesulfonate  
 66003-76-7, Diphenyliodonium trifluoromethanesulfonate 125120-36-7  
 197447-16-8, Triphenylsulfonium 2,4,6-trisopropylphenylsulfonate  
 199125-55-8 251463-24-8 258341-98-9 287925-55-7,  
 Triphenylsulfonium p-dodecylphenylsulfonate 341972-63-2D, ethers  
 341972-64-3 341972-66-5D, ethers 341972-68-7D, ethers and esters  
 341972-70-1D, ethers 341972-71-2 341972-72-3 341972-75-6  
 341972-77-8 341972-78-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos.-working resist laminate comprising 1st layer containing acrylic  
 polymer and 2nd layer containing polysiloxane and acid generator)  
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L28 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2001:194854 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:238339  
 TITLE: Polycarbonate compositions with good flowability and  
 impact and fire resistance, and office machine  
 housings using them  
 INVENTOR(S): Okamoto, Masaya  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001072847	A	20010321	JP 1999-360226	19991220 <--
JP 4275279	B2	20090610		
TW 570954	B	20040111	TW 2000-89121340	20001012 <--
PRIORITY APPLN. INFO.:			JP 1999-191187	A 19990706 <--
			JP 1999-176305	A 19990623 <--
			JP 1999-360225	A 19991220 <--
			JP 1999-360226	A 19991220 <--

AB The compns. contain aromatic polycarbonate-polyorganosiloxane copolymers  
 having terminal groups  $\text{OCO}_2\text{C}_6\text{H}_4\text{R}_1$  ( $\text{R}_1 = \text{C10-20 alkyl}$ ) and 0.05-1 phr fibril-

forming PTFE with average mol. weight  $\geq 500,000$ . Thus, bisphenol A polycarbonate oligomer was polymerized with phenol-terminated di-Me polysiloxane and terminated with p-dodecylphenol to give polycarbonate-polysiloxane copolymer. A composition comprising 100 parts of the copolymer and 0.3 part Algodol F 5 (PTFE) showed spiral flow length 34 cm, fire resistance V-0, and Izod impact strength 74 kJ/m<sup>2</sup>.

IT 170791-15-8DF, alkylphenyl-terminated

RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (aromatic polycarbonate compns. with good flowability and impact and fire resistance)

RN 170791-15-8 HCPLUS

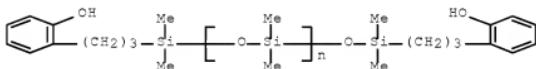
CN Carbonic dichloride, polymer with  $\alpha$ -[[3-(2-hydroxyphenyl)propyl]dimethylsilyl]- $\omega$ -[[3-(2-hydroxyphenyl)propyl]dimethylsilyl]oxylpolyoxy(dimethylsilylene)] and 4,4'-(1-methylethyldiene)bis[phenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 158167-48-7

CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>22</sub> H<sub>34</sub> O<sub>3</sub> Si<sub>2</sub>

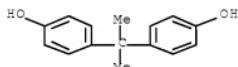
CCI PMS



CM 2

CRN 80-05-7

CMF C<sub>15</sub> H<sub>16</sub> O<sub>2</sub>



CM 3

CRN 75-44-5

CMF C C<sub>12</sub> O



IC ICM C08L069-00  
 ICS C08J005-00; C08L069-00; C08L027-18  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38  
 IT Impact-resistant materials  
     (fire-resistant; aromatic polycarbonate compns. with  
     good flowability and impact and fire resistance)  
 IT Fire-resistant materials  
     (impact-resistant; aromatic polycarbonate compns. with  
     good flowability and impact and fire resistance)  
 IT 104-43-8DP, p-Dodecylphenol, reaction products with  
 polycarbonate-polysiloxane 108-95-2DP, Phenol, branched p-dodecyl,  
 reaction products with polycarbonate-polysiloxane, preparation  
 170791-15-8DP, alkylphenyl-terminated 315210-48-1DP,  
 alkylphenyl-terminated  
 RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer  
 in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
     (aromatic polycarbonate compns. with good flowability and impact and fire  
     resistance)

L28 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2001:194853 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:238338  
 TITLE: Polycarbonate compositions with good flowability and  
       impact and fire resistance, and office machine  
       housings using them  
 INVENTOR(S): Okamoto, Masaya  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001072846	A	20010321	JP 1999-360225	19991220 <--
JP 4275278	B2	20090610		
TW 570954	B	20040111	TW 2000-89121340	20001012 <--
PRIORITY APPLN. INFO.:			JP 1999-191188	A 19990706 <--
			JP 1999-176305	A 19990623 <--
			JP 1999-360225	A 19991220 <--
			JP 1999-360226	A 19991220 <--

AB The compns. contain aromatic polycarbonate-polyorganosiloxane copolymers  
 having terminal groups  $\text{OCO}_2\text{C}_6\text{H}_5\text{H}-\text{a}(\text{R}1)\text{a}$  ( $\text{R}1 = \text{C}1-9$  alkyl,  $\text{C}6-20$  aryl, halo;  $\text{a} = 0-5$ ), aromatic polycarbonates having terminal groups  $\text{OCO}_2\text{C}_6\text{H}_4\text{R}2$  ( $\text{R}2 = \text{C}10-20$  alkyl), and 0.05-1 phr fibril-forming PTFE with average mol. weight  $\geq 500,000$ .  
 Thus, bisphenol A polycarbonate oligomer was condensed with phenol-terminated  
 di-Me polysiloxane and terminated with p-tert-butylphenol to give  
 polycarbonate-polysiloxane copolymer. A composition comprising the copolymer  
 33, p-dodecylphenyl-terminated bisphenol A polycarbonate 67, and Algodalon F 5  
 (PTFE) 0.3 part showed spiral flow length 32 cm, fire resistance V-0, and Izod  
 impact strength 70 kJ/m<sup>2</sup>.

IT 170791-15-8DP, alkylphenyl-terminated  
 RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer  
 in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
     (aromatic polycarbonate compns. with good flowability and impact and fire  
     resistance)

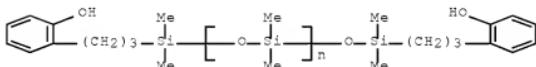
RN 170791-15-8 HCAPLUS

CN Carbonic dichloride, polymer with  $\alpha$ -[(3-(2-hydroxyphenyl)propyl]dimethylsilyl]- $\omega$ -[(3-(2-hydroxyphenyl)propyl]dimethylsilyl]oxylpoly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[phenol], block (9CI) (CA INDEX NAME)

CM 1

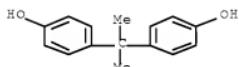
CRN 158167-48-7

CMF (C<sub>22</sub> H<sub>34</sub> O<sub>3</sub> Si)<sub>n</sub> C<sub>22</sub> H<sub>34</sub> O<sub>3</sub> Si<sub>2</sub>  
CCI PMS



CM 2

CRN 80-05-7

CMF C<sub>15</sub> H<sub>16</sub> O<sub>2</sub>

CM 3

CRN 75-44-5

CMF C C<sub>12</sub> O

IC ICM C08L069-00

ICS C08L069-00; C08L027-18

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Impact-resistant materials  
(fire-resistant; aromatic polycarbonate compns. with  
good flowability and impact and fire resistance)

IT Fire-resistant materials  
(impact-resistant; aromatic polycarbonate compns. with  
good flowability and impact and fire resistance)

IT 98-54-4DP, p-tert-Butylphenol, reaction products with polycarbonate-polysiloxane 104-43-8DP, p-Dodecylphenol, reaction products with polycarbonate 108-95-2DP, Phenol, p-branched dodecyl, reaction products with polycarbonate, preparation 599-64-4DP, p-Cumylphenol, reaction products with polycarbonate-polysiloxane 25971-63-5DP, Bisphenol A-phosgene copolymer, alkylphenyl-terminated 170791-15-3DP, alkylphenyl-terminated 315210-48-1DP, alkylphenyl-terminated  
 RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
 (aromatic polycarbonate compns. with good flowability and impact and fire resistance)

L28 ANSWER 16 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:17899 HCPLUS Full-text

DOCUMENT NUMBER: 134:72397

TITLE: Fire- and impact-resistant aromatic polycarbonate resin compositions

INVENTOR(S): Okamoto, Masaya; Nodera, Akio; Kitayama, Masahiro

PATENT ASSIGNEE(S): Idemitsu Petrochemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001002907	A	20010109	JP 1999-176305	19990623 <--
JP 4212722	B2	20090121		
US 20030027928	A1	20030206	US 1999-457744	19991210 <--
DE 10050121	A1	20020425	DE 2000-10050121	20001011 <--
TW 570954	B	20040111	TW 2000-89121340	20001012 <--
PRIORITY APPLN. INFO.:				
			JP 1999-176305	A 19990623 <--
			JP 1999-191187	A 19990706 <--
			JP 1999-191188	A 19990706 <--
			JP 1999-360225	A 19991220 <--
			JP 1999-360226	A 19991220 <--

AB Title compns., useful for housing of office automation (OA) equipments, comprise (A) aromatic polycarbonate-polyorganosiloxanes, (B) polyester-polycarbonates containing aliphatic segments, and (C) 0.05-1 parts (based on 100 parts A + B) polytetrafluoroethylene with average mol. weight  $\geq$  500,000 and fibril-forming ability. Thus, a phenol-terminated polydimethylsiloxane prepared from octamethylcyclotetrasiloxane, 1,1,3,3-tetramethylidisiloxane, and 2-allylphenol and a bisphenol A-phosgene oligomer were reacted to give a polymer A. A composition comprising polymer A 33, polymer B prepared from bisphenol A-phosgene oligomer and decandicarboxylic acid 67, and Algofton F 5 0.3 parts gave spiral flow length 31 cm, flame retardance V-0, and Izod impact strength 70 kJ/m<sup>2</sup>.

IT 158167-48-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

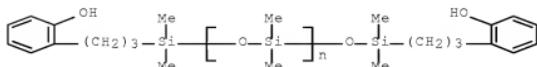
(intermediate; preparation of fire- and impact-resistant aromatic polycarbonate

resin compns.)

RN 158167-48-7 HCPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[(3-(2-hydroxyphenyl)propyl)dimethylsilyl]- $\omega$ -[(3-(2-

hydroxyphenyl)propyl]dimethylsilyl]oxy]- (CA INDEX NAME)



IC ICM C08L069-00

ICS C08G064-08; C08L067-02; C08L083-04; H05K005-02; C08L069-00;  
C08L027-18

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

ST fire impact resistant arom polycarbonate compns

IT 97-53-0DP, Eugenol, reaction products with polydimethylsiloxanes  
26761-75-1DP, Allylphenol, reaction products with polydimethylsiloxanes  
102411-56-3DP, Octamethylcyclotetrasiloxane-1,1,3,3-tetramethyldisiloxane  
copolymer, reaction products with allylphenol or eugenol  
158167-48-7P 163617-00-3PRL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate; preparation of fire- and impact-resistant aromatic  
polycarbonate  
resin compns.)

IT 136541-42-9P 136541-42-9P 170791-15-8P

315210-48-1P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(preparation of fire- and impact-resistant aromatic polycarbonate resin  
compns.)

L28 ANSWER 17 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:765533 HCPLUS Full-text

DOCUMENT NUMBER: 133:310527

TITLE: Polycarbonate compositions with excellent sliding  
propertiesINVENTOR(S): Kurasawa, Yoshihiro; Obayashi, Naoto; Miyajima,  
Takashi

PATENT ASSIGNEE(S): Mitsubishi Engineering Plastic K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000302962	A	20001031	JP 1999-116723	19990423 <--
PRIORITY APPLN. INFO.:			JP 1999-116723	19990423 <--
AB The compns., useful for electronic parts, contain 0-99 parts polycarbonates (A), 1-100 parts polycarbonates (B) having units OQ1R(SiX1X2O)nSiX3X4RQ1OC:O and OQ2BQ3OC:O [R = C2-6 alkylene; X1-4 = C1-20 (hydrogenated) hydrocarbyl; B = C1-10 linear, branched, or cyclic alkylidene, aryl-substituted alkylene, arylene, O, S, CO, SO, SO2; Q1 = phenylene; Q2 = 2-R1-5-R2-substituted 1,4- phenylene; Q3 = 3-R3-5-R4-substituted 1,4-phenylene; R1-4 = H, halo, C1-4				

alkyl), and 0.1-5 parts (on 100 parts A + B) silicone oils with viscosity ( $\eta$ , 25°)  $\geq 10,000$  mm<sup>2</sup>/s. Thus, a test piece comprising S 3000 (bisphenol A polycarbonate) 85, polycarbonate prepared from 2,2-bis(4-hydroxyphenyl)propane, phenol-terminated polydimethylsiloxane, and phosgene 15, and VRS 01 (polydimethylsiloxane,  $\eta$  6,000,000 mm<sup>2</sup>/s) showed Izod impact strength 850 J/m, heat distortion temperature 132°, and good abrasion resistance.

IT 191280-18-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polycarbonate compns. with good abrasion and impact resistance)

RN 191280-18-9 HCPLUS

CN Carbonic dichloride, polymer with  $\alpha$ -[2-(4-hydroxyphenyl)ethyl]dimethylsilyl]- $\omega$ -[[(2-(4-hydroxyphenyl)ethyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

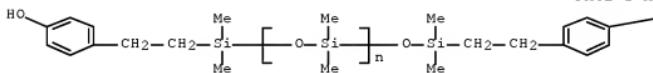
CM 1

CRN 158133-96-1

CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>20</sub> H<sub>30</sub> O<sub>3</sub> Si<sub>2</sub>

CCI PMS

PAGE 1-A

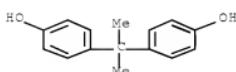


PAGE 1-B

—OH

CM 2

CRN 80-05-7

CMF C<sub>15</sub> H<sub>16</sub> O<sub>2</sub>

CM 3

CRN 75-44-5  
 CMF C C12 O

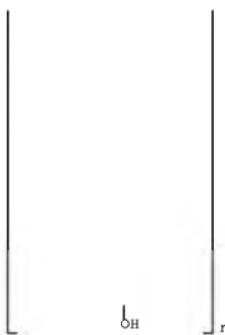
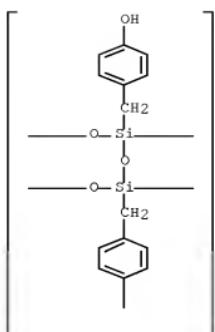
○  
 C1-C1

IC ICM C08L069-00  
 ICS C08G064-08; C08L069-00; C08L083-04  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT Abrasion-resistant materials  
 Impact-resistant materials  
 (polycarbonate compns. with good abrasion and impact  
 resistance)  
 IT 191280-18-9P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP  
 (Preparation); USES (Uses)  
 (polycarbonate compns. with good abrasion and impact resistance)

L28 ANSWER 18 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2000:551259 HCPLUS Full-text  
 DOCUMENT NUMBER: 133:185527  
 TITLE: Negative-working silicon-containing resist  
 composition for manufacture of semiconductor  
 devices  
 INVENTOR(S): Lin, Qinghuang; Katnani, Ahmad; La Tulipe, Douglas  
 Charles, Jr.; Seeger, David E.; Brunsvold, William  
 Ross; Ardakani, Ali Afzali  
 PATENT ASSIGNEE(S): International Business Machines Corp., USA  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000221687	A	20000811	JP 2000-23822	20000201 <--
US 6187505	B1	20010213	US 1999-241441	19990202 <--
US 6344305	B1	20020205	US 2000-654350	20000901 <--

PRIORITY APPLN. INFO.: US 1999-241441 A 19990202 <--  
 AB The neg.-working Si-containing resist composition comprises (a) a basic water-  
 soluble Si-containing polymer having a Ph group, (b) a crosslinking agent  
 which bridges the polymers at OH of the Ph group, (c) an acid generator, and  
 (d) a solvent.  
 IT 188629-68-7  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (neg.-working silicon-containing resist composition for  
 manufacture of semiconductor devices)  
 RN 188629-68-7 HCPLUS  
 CN Poly[1,3-bis[(4-hydroxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-  
 bis(oxy)] (CA INDEX NAME)



IC ICM G03F007-075  
 ICS G03F007-038; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
     Reproductive Processes)  
 Section cross-reference(s): 38, 76  
 IT Photoresists  
 Semiconductor device fabrication  
     (neg.-working silicon-containing resist composition for  
     manufacture of semiconductor devices)  
 IT Silsesquioxanes  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material

use); USES (Uses)  
 (neg.-working silicon-containing resist composition for  
 manufacture of semiconductor devices)  
 IT 91-44-1, Coumarin-1 194861-06-8 213740-80-8 288268-25-7  
 RL: CAT (Catalyst use); USES (Uses)  
 (neg.-working silicon-containing resist composition for  
 manufacture of semiconductor devices)  
 IT 188629-68-7  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)  
 (neg.-working silicon-containing resist composition for  
 manufacture of semiconductor devices)  
 IT 17464-88-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (powder link; neg.-working silicon-containing resist  
 composition for manufacture of semiconductor devices)  
 OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
 (11 CITINGS)

L28 ANSWER 19 OF 54 CAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1999:183813 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 130:283022  
 TITLE: Thermal-transfer recording sheets with good storage  
 stability at high temperature  
 INVENTOR(S): Nakai, Toshimitsu; Torii, Hisanori; Kato, Satoshi  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan  
 SOURCE: Jpn. Kokai Tokyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11070747	A	19990316	JP 1998-110323	19980421 <--
PRIORITY APPLN. INFO.:			JP 1997-175591	A 19970701 <--

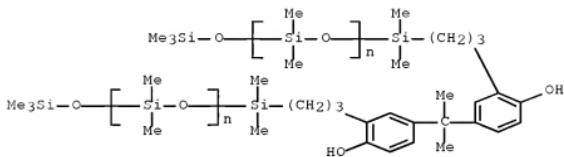
AB The sheets with freedom from wrinkling caused by printing at high temperature  
 comprise a base film which bears a heat-resistant slip layer on 1 side and  
 colored layers on the other side where the heat-resistant slip layer is  
 obtained from resins containing polycarbonates bearing grafted polysiloxane  
 moieties. Thus, coating a mixture containing 80 parts polycarbonate having 5%  
 units derived from carbonic acid and bisphenol A compound bearing  
 $Me_3Si(OSiMe_2)mCH_2CH_2CH_2$  ( $m =$  integer so that viscosity-average mol. weight =  
 30,000) group adjacent to phenolic OH group, and units derived from carbonic  
 acid and bisphenol AP, and 20 parts Vylon 200 on 1 side of a biaxially-  
 oriented PET polyester film to dry thickness of .apprx.1  $\mu$ m, drying at 120°  
 for 1 min, coating a mixture containing a blue sublimation-type colorant 60,  
 phenoxy resin 100, i-PrOH 400, and MEK 400 parts on the other side of the film  
 to dry thickness of .apprx.1  $\mu$ m and drying gave a thermal-transfer printing  
 sheet.

IT 220225-23-0  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (heat-resistant coating for thermal-transfer printing sheets with good  
 storage stability at high temperature)  
 RN 220225-23-0 CAPLUS  
 CN Carbonic acid, polymer with 4,4'-cyclohexylidenebis[phenol] and  
 $\alpha,\alpha'-(1-methylethylidene)bis[(6-hydroxy-3,1-phenylene)-3,1-$

propanediyl(dimethylsilylene))]bis[ $\omega$ -( $\omega$ -(trimethylsilyl)oxy)poly(oxy(dimethylsilylene))], graft (9CI) (CA INDEX NAME)

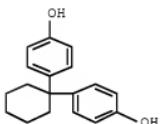
CM 1

CRN 188202-31-5  
 CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>31</sub> H<sub>56</sub> O<sub>4</sub> Si<sub>4</sub>  
 CCI PMS



CM 2

CRN 843-55-0  
 CMF C<sub>18</sub> H<sub>20</sub> O<sub>2</sub>



CM 3

CRN 463-79-6  
 CMF C H<sub>2</sub> O<sub>3</sub>



IC ICM B41M005-38  
 ICS B32B027-00; B32B027-36; B41M005-40; C08G064-18; C08G077-448  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 74  
 IT 37337-82-9, Vylon 200

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (coating compns.; heat-resistant coating for thermal-transfer printing sheets with good storage stability at high temperature)

IT 220225-23-0 222045-07-0 222045-09-2D,  
 trimethylsilyl-terminated 222045-12-7D, trimethylsilyl-terminated  
 222045-13-8 222045-14-9D, trimethylsilyl-terminated  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (heat-resistant coating for thermal-transfer printing sheets with good storage stability at high temperature)

L28 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1998:259677 HCAPLUS Full-text  
 DOCUMENT NUMBER: 128:295450  
 ORIGINAL REFERENCE NO.: 128:58561a,58564a  
 TITLE: Abrasion-resistant polycarbonate-polysiloxane compositions  
 INVENTOR(S): Ogawa, Noriyoshi; Tajima, Jun  
 PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Inc., Japan  
 SOURCE: Ger. Offen., 26 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19745591	A1	19980423	DE 1997-19745591	19971006 <--
JP 10158379	A	19980616	JP 1997-224257	19970806 <--
JP 3791641	B2	20060628		
JP 10158499	A	19980616	JP 1997-224258	19970806 <--
JP 3791642	B2	20060628		
US 5916980	A	19990629	US 1997-943158	19971003 <--
PRIORITY APPLN. INFO.:			JP 1996-281904	A 19961003 <--
			JP 1996-281905	A 19961003 <--
			JP 1997-224257	A 19970806 <--
			JP 1997-224258	A 19970806 <--

AB The title compns., with good transparency, contain polycarbonates prepared from siloxanes of specified structure, bisphenols, and H<sub>2</sub>CO<sub>3</sub> precursors; and 0-20% diorganopolysiloxanes. A polycarbonate prepared by polymerization of 91.2 g bisphenol A and 13.2 g di-Me polysiloxane (d.p. 40) bearing two (2-hydroxyphenyl)propyl groups/chain with COCl<sub>2</sub> had intrinsic viscosity 0.89 dL/g, transparency 90.4%, and Taber abrasion (1 kg load) 2, 6, 16, and 34 mg after 4, 12, 24, and 48 h, resp.; vs. 0.64, 90.7, 6, 17, 32, and 67, resp., for bisphenol A polycarbonate.

IT 206114-16-1P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (abrasion-resistant polycarbonate-polysiloxane compns  
 .)

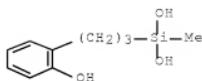
RN 206114-16-1 HCAPLUS  
 CN Carbonic dichloride, polymer with dimethylsilanediol,  
 [3-(2-hydroxyphenyl)propyl]methylsilanediol and  
 4,4'-(1-methylethylidene)bis[phenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 170368-25-9

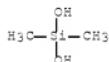
10/593004

CMF C10 H16 O3 Si



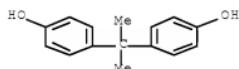
CM 2

CRN 1066-42-8  
CMF C2 H8 O2 Si



CM 3

CRN 80-05-7  
CMF C15 H16 O2



CM 4

CRN 75-44-5  
CMF C C12 O



IC ICM C08L069-00  
ICS C08L083-04; C08J005-18; C08G077-448; C08G064-18; C08G064-24  
ICI C08L069-00, C08L083-04  
CC 37-6 (Plastics Manufacture and Processing)  
IT Polysiloxanes, uses

RL: POF (Polymer in formulation); USES (Uses)  
 (blends with polycarbonate-polysiloxanes; abrasion-resistant  
 polycarbonate-polysiloxane compns.)

IT Polysiloxanes, preparation  
 Polysiloxanes, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polycarbonate-; abrasion-resistant  
 polycarbonate-polysiloxane compns.)

IT Polymer blends  
 RL: POF (Polymer in formulation); USES (Uses)  
 (polysiloxane blends with polycarbonate-polysiloxanes; abrasion-  
 resistant polycarbonate-polysiloxane compns.)

IT Polycarbonates, preparation  
 Polycarbonates, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polysiloxane-; abrasion-resistant polycarbonate-polysiloxane  
 compns.)

IT 206114-16-1P 206114-17-2P 206114-18-3P  
 206114-19-4P 206114-20-7P 206114-22-9P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (abrasion-resistant polycarbonate-polysiloxane compns  
 .)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD  
 (4 CITINGS)

L28 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1998:115342 HCAPLUS Full-text  
 DOCUMENT NUMBER: 128:174149  
 ORIGINAL REFERENCE NO.: 128:34197a,34200a  
 TITLE: High-contrast photoresist comprising acid-sensitive  
 crosslinked polymeric resins  
 INVENTOR(S): Huang, Wu-Song; Linde, Harold George; Whiting, Charles  
 Arthur  
 PATENT ASSIGNEE(S): International Business Machines Corp., USA  
 SOURCE: U.S., 13 pp., Cont.-in-part of U.S. Ser. No. 71,095,  
 abandoned.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5712078	A	19980127	US 1995-476793	19950607 <--
JP 07140666	A	19950602	JP 1994-93265	19940502 <--
JP 10182989	A	19980707	JP 1997-252492	19970917 <--
JP 3014350	B2	20000228		

PRIORITY APPLN. INFO.: US 1993-71095 B2 19930604 <--  
 JP 1994-93265 A3 19940502 <--

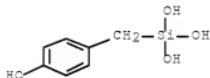
AB Acid-sensitive polymeric compns., improved chemical amplified microlithog.  
 resist compns. comprising the acid-sensitive polymeric compns., and methods  
 for the preparation and use thereof are disclosed. The compns. comprise, in  
 admixt., a polymeric binder, an acid-labile compound which provides selective  
 aqueous base solubility upon cleavage, and a compound that generates acid upon  
 exposure to imaging radiation. More particularly, the compns. have one or  
 more acid-labile ketal groups, which may be chemical linked to a polymeric  
 resin or which may be incorporated into a sep. component to form a dissoln.  
 inhibitor. Crosslinking of the polymer to produce a high-mol.-weight,  
 nonpolar resin may also occur by ketal exchange. Upon exposure, mol. weight

and polarity changes of the crosslinked resin produce high contrast during development. The compns. exhibit reduced sensitivity to environmental contaminants when compared to known acid-amplified resist compns. and may optionally be processed without a post exposure bake step. Such compns. are especially useful in the fabrication of integrated circuit devices by microlithog. techniques.

IT 188557-77-9D, reaction products with 2-methoxypropene  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (high-contrast photoresists containing)  
 RN 188557-77-9 HCPLUS  
 CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8  
 CMF C7 H10 O4 Si



IC ICM G03C001-73  
 INCL 430270100  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT 188557-77-9D, reaction products with 2-methoxypropene  
 188629-68-7D, reaction products with 2-methoxypropene  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (high-contrast photoresists containing)  
 OS.CITING REF COUNT: 21 THERE ARE 21 CAPLUS RECORDS THAT CITE THIS RECORD (21 CITINGS)  
 REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 22 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1997:692361 HCPLUS Full-text  
 DOCUMENT NUMBER: 128:17350  
 ORIGINAL REFERENCE NO.: 128:3275a, 3278a  
 TITLE: Chemical amplification positive-working resist containing hydroxybenzyl silsesquioxane derivative  
 INVENTOR(S): Tsuchiya, Junji; Ishihara, Toshinobu; Nagura, Shigehiro; Takemura, Katsuya; Yamaoka, Tsugio  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09274319	A	19971021	JP 1996-104589	19960402 <--
JP 3518158	B2	20040412		
TW 574627	B	20040201	TW 1996-85116032	19961223 <--

US 5882844

A 19990316

US 1997-831301

19970401 &lt;--

KR 228466

B1 19991101

KR 1997-12010

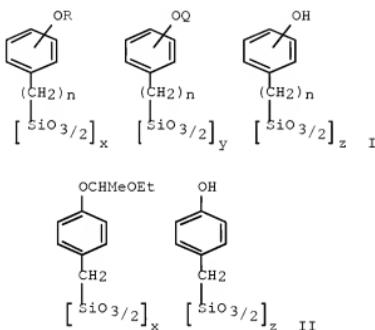
19970401 &lt;--

PRIORITY APPLN. INFO.:

JP 1996-104589

A 19960402 &lt;--

GI



AB The title material contains (a) an organic solvent, (b) a polymer with weight average mol. weight ( $M_w$ ) 2000- 50,000 having a repeating unit I [R = CR1R2R3 (R1, R2 = H, C1-6 straight chain or branched alkyl; R3 = C1-10 straight chain, branched or cyclic alkyl, R2 and R3 may link to form a ring); Q = acid-labile group;  $0.05 \leq x/(x + y + z) \leq 0.8$ ,  $0 \leq y/(x + y + z) \leq 0.5$ ,  $0.2 \leq z/(x + y + z) \leq 0.95$ ; n = 1-3] as a base resin, (c) an acid-generating agent, (d) a compound having  $\geq 2$  vinyl ether groups in its mol., and optionally (e) a compound with mol. weight 100- 1000 having in its mol.  $\geq 2$  phenolic OH groups of which the H atoms are substituted for acid-labile groups in a ratio of 10-100 % in average, and (f) a compound with mol. weight 1000-3000 having in its mol. a phenolic OH group of which the H atom is substituted for the group in a ratio of 0-60 % in average as dissoln. inhibitor. The material shows high sensitivity toward high energy rays such as far UV rays, electron beams, and x-ray and provides high resolution patterns by development with alkaline aqueous solns. Thus, polymer II [ $x/(x + y) = 0.30$ ], (p-tert-BuOC6H4)3S<sup>+</sup>. p-MeC6H4SO3<sup>-</sup>, and [p-CH2:CHO(CH2)20C6H4]2CMe2 were dissolved in propylene glycol monomethyl ether acetate to give a resist solution

IT 199125-55-8

RL: TEM (Technical or engineered material use); USES (Uses) (chemical amplification resist composition containing hydroxybenzyl silsesquioxane derivative and viny ether compound)

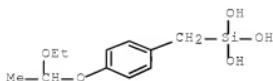
RN 199125-55-8 HCPLUS

CN Silanetriol, [(4-(1-ethoxyethoxy)phenyl)methyl]-, polymer with [(4-hydroxyphenyl)methyl]silanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 199125-54-7

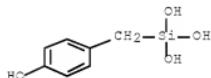
CMF C11 H18 O5 Si



CM 2

CRN 188557-76-8

CMF C7 H10 O4 Si

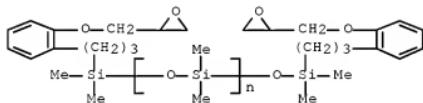


IC ICM G03F007-039  
 ICS G03F007-004; G03F007-029; G03F007-033; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Silsesquioxanes  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (chemical amplification resist composition containing  
 hydroxybenzyl silsesquioxane derivative and viny ether compound)  
 IT Resists  
 (pos.-working; chemical amplification resist composition  
 containing hydroxybenzyl silsesquioxane derivative and viny ether compound)  
 IT 52411-04-8 150610-15-4 199125-55-8 199125-57-0  
 199125-59-2 199125-61-6 199125-63-8  
 199125-64-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (chemical amplification resist composition containing  
 hydroxybenzyl silsesquioxane derivative and viny ether compound)  
 IT 117458-06-7 123589-22-0 129674-22-2 162102-77-4  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material  
 use); USES (Uses)  
 (dissoln. inhibitor; chemical amplification resist compn  
 . containing hydroxybenzyl silsesquioxane derivative and viny ether  
 compound)  
 OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS  
 RECORD (19 CITINGS)

L28 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1997:483281 HCAPLUS Full-text  
 DOCUMENT NUMBER: 127:96055  
 ORIGINAL REFERENCE NO.: 127:18500h,18501a  
 TITLE: Silicone-modified compounds, silicone-modified epoxy  
 resins, epoxy resin compositions and their cured  
 products

INVENTOR(S): Akatsuka, Yasumasa; Hasegawa, Ryoichi; Takahashi, Nobuo; Mori, Naomi  
 PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09143344	A	19970603	JP 1995-325232	19951121 <--
PRIORITY APPLN. INFO.:			JP 1995-325232	19951121 <--
<b>AB</b> The title compds. (A) are derived from the reaction between bisphenol compds. with the adducts of allyl group-containing epoxy compds. and SiH group-terminated organopolysiloxanes, and the modified epoxy resins (B) are derived from the reaction of the A compds. with ordinary epoxy resins. Epoxy resin compns. with good cured heat and crack resistance are formulated from the A or/and B, and curing agents. Thus, an adduct of <i>o</i> -allylphenyl glycidyl ether with HSiMe <sub>2</sub> -terminated di-Me siloxane was prepared, combined with bisphenol A, Ph3P and MIBK, and heated at reflux to give a liquid silicone-modified epoxy resin (I). A curable composition was formulated from the I 10, Epikote 828 180, Kayahard MCD 153, a curing accelerator 1.8, silica powder 800, stearic acid 4 and silane coupler 5 parts. <b>IT</b> 180423-86-3P, Dimethylsilanediol homopolymer, sru, 3-( <i>o</i> -glycidoxypyhenyl)propyl-terminated <b>RL:</b> POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (addition reaction in manufacture of silicone-modified compds. for use with epoxy resin) <b>RN</b> 180423-86-3 HCAPLUS <b>CN</b> Poly[oxy(dimethylsilylene)], $\alpha$ -[dimethyl[3-[2-(oxiranylmethoxy)phenyl]propyl]silyl]- $\omega$ -[dimethyl[3-[2-(oxiranylmethoxy)phenyl]propyl]silyl]oxy]-(9CI) (CA INDEX NAME)				



**IC** ICM C08L063-00  
 ICS C08G059-30; C08G077-38; C08K003-00  
**CC** 37-6 (Plastics Manufacture and Processing)  
**IT** 180423-86-3P, Dimethylsilanediol homopolymer, sru,  
 3-(*o*-glycidoxypyhenyl)propyl-terminated  
**RL:** POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (addition reaction in manufacture of silicone-modified compds. for use with epoxy resin)  
**IT** 192189-03-0, *o*-Allylphenyl glycidyl ether-bisphenol A-dimethylsilyl-terminated di-methyl siloxane-epichlorohydrin-Kayahard MCD copolymer 192189-04-1, *o*-Allylphenyl glycidyl ether-bisphenol

A-dimethylsilyl-terminated di-methyl siloxane-EOCN 1020-epichlorohydrin copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (manufacture of silicone-modified compds. for use with epoxy resin)

L28 ANSWER 24 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1997:353287 HCPLUS Full-text  
 DOCUMENT NUMBER: 127:18192  
 ORIGINAL REFERENCE NO.: 127:3677a,3680a  
 TITLE: Polysiloxane and positive-type resist material  
 INVENTOR(S): Takemura, Katsuya; Tsuchiya, Junji; Watanabe, Osamu;  
 Ishihara, Toshinobu  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09087391	A	19970331	JP 1995-270580	19950925 <--
JP 3324360	B2	20020917		
TW 448343	B	20010801	TW 1996-85106387	19960529 <--
US 5691396	A	19971125	US 1996-719011	19960924 <--
KR 233629	B1	19991201	KR 1996-41859	19960924 <--

## PRIORITY APPLN. INFO.:

AB The title materials comprise the silsesquioxanes  
 $[SiO_3/2[ROC_6H_4(CH_2)_n]]^x[SiO_3/2[HOC_6H_4(CH_2)_n]]^y[SiO_3/2[QC_6H_4(CH_2)_n]]^z$  (R = alkoxy ether, furanyl, etc.; Q = acid unstable group; x + y + z = 1, x, y ≠ 0). The polymers have good alkali solubility. A polymer was prepared by reaction of hydroxybenzylsilanetriol silsesquioxane and chloromethyl Me ether.

IT 188557-77-9DP, reaction products with ethers

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polysiloxane and pos.-type resist material)

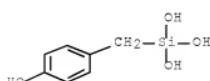
RN 188557-77-9 HCPLUS

CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8

CMF C7 H10 O4 Si



IC ICM C08G077-14  
 ICS G03F007-004; G03F007-029; G03F007-039; G03F007-075; G03F007-30;  
 H01L021-027  
 CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

IT Resists

(pos.-working; polysiloxane and pos.-type resist material)

IT 107-30-2DP, Chloromethyl methyl ether, reaction products with hydroxybenzyl silsesquioxane 109-53-5DP, Iso-butyl vinyl ether, reaction products with hydroxybenzyl silsesquioxane 109-92-2DP, Ethyl vinyl ether, reaction products with hydroxybenzyl silsesquioxane 111-34-2DP, n-Butyl vinyl ether, reaction products with hydroxybenzyl silsesquioxane 926-02-3DP, tert-Butyl vinyl ether, reaction products with hydroxybenzyl silsesquioxane 1191-99-7DP, 2,3-Dihydrofuran, reaction products with hydroxybenzyl silsesquioxane 4525-32-0DP, Dibutyl dicarbonate, reaction products with hydroxybenzyl silsesquioxane 188557-77-9DP, reaction products with ethers 188629-68-7DP, reaction products with ethers

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polysiloxane and pos.-type resist material)

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD  
(10 CITINGS)

L28 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:75294 HCAPLUS Full-text

DOCUMENT NUMBER: 126:257418

ORIGINAL REFERENCE NO.: 126:49669a,49672a

TITLE: Direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their new application to hard-mask processes

AUTHOR(S): Morisawa, Taku; Fukuda, Hiroshi

CORPORATE SOURCE: Central Research Laboratory, Hitachi, Ltd., Tokyo, 185, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes &amp; Review Papers (1996), 35(12B), 6366-6369

CODEN: JAPNDE; ISSN: 0021-4922

PUBLISHER: Japanese Journal of Applied Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several spin-on-glass (SOG) materials were examined as single layer resists for ArF excimer laser lithog., with the goal of directly forming a hard mask from these materials for dry-etching underlying metal films. Perhydro-silazane (PHSN) was found to be photo-reactive at 193 nm wavelength as well as polyphenylmethyl-silsesquioxane (PMSQ) and polyhydroxybenzyl-silsesquioxane (HSQ), which we have reported previously. These materials showed a sufficient resolution performance and sensitivity at 193 nm. The Fourier-transform IR (FTIR) and X-ray photoelectron spectrometry (XPS) analyses showed that the basic reaction is photo-oxidation, though the imaging mechanism in each material is quite different. The etching resistance of these materials was significantly improved by special treatment after patterning, whereas those without the treatment were insufficient. For example, etching rate of PHSN after baking in steam ambient was comparable to that for CVD SiO<sub>2</sub> in RIE using SF<sub>6</sub> gas. 0.2 μm patterns were transferred into poly-Si films by dry-etching using these materials as hard masks.

IT 188557-77-9

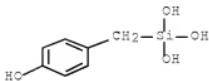
RL: NNU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

RN 188557-77-9 HCAPLUS

CN Silanetriol, 1-[(4-hydroxyphenyl)methyl]-, homopolymer (CA INDEX NAME)

CM 1

CRN 188557-76-8  
CMF C7 H10 O4 Si

CC 76-3 (Electric Phenomena)  
 Section cross-reference(s): 74

IT Annealing  
 Integrated circuits  
 Laser radiation  
 Photomasks (lithographic masks)  
 Resists  
 Silazanes  
 Silsesquioxanes  
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
 (direct patterning of spin-on-glass materials by ArF excimer laser  
 irradiation and their application to hard-mask processes)

IT 92068-44-5 188557-77-9 188629-68-7  
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
 (direct patterning of spin-on-glass materials by ArF excimer laser  
 irradiation and their application to hard-mask processes)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L28 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:588311 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:223554  
 ORIGINAL REFERENCE NO.: 125:41785a,41788a  
 TITLE: Noncombustible siloxane-modified polycarbonate  
 compositions resistant to dripping  
 in burning  
 INVENTOR(S): Nodera, Akio; Okamoto, Masaya; Takarada, Mitsuhiro;  
 Kizaki, Hiroaki; Kumagai, Kimitaka  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan; Shinetsu Chemical  
 Industry Co., Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08176427	A	19960709	JP 1994-319690	19941222 <--
JP 3151789	B2	20010403	JP 1994-319690	19941222 <--

AB The title compns. contain (A) 100 parts  $\geq 0.1\%$  organopolysiloxane unit-containing resins comprising (a) 1-100% aromatic polycarbonate copolymers with 0.1-20%  $[(R1)3SiO0.5]a[(R2)2SiO]b[R3SiO1.5]c[SiO2]d$  ( $R1-3 = Cl-12$  hydrocarbyl, phenolic OH-containing group; 1 mol. contains  $\geq 2$  the phenolic OH-containing group;  $0 \leq a \leq 0.75$ ;  $0 \leq b < 1$ ;  $0 \leq c \leq 0.5$ ;  $0 \leq d \leq 0.25$ ;  $a + b + c + d = 1$ ; excluding  $c = d = 0$ ) and (b) 99-0% aromatic polycarbonates and (B) 0-1 part organic alkali metal and/or alkaline earth metal salts. Thus,  $\sigma-HOC6H4(CH2)3[Me2SiO]2SiPh[OSiMe2(CH2)3C6H4OH-o]SiPh2OSiMe2(CH2)3C6H4OH-o$  was polymerized with polycarbonate oligomer (prepared from bisphenol A and COCl<sub>2</sub>) to give a copolymer containing 1% siloxane unit, which showed O index 31, fire resistance rating V-1, no dripping, and haze 3.

IT 181355-34-0P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
(noncombustible siloxane-modified polycarbonate compns.  
resistant to dripping in burning).

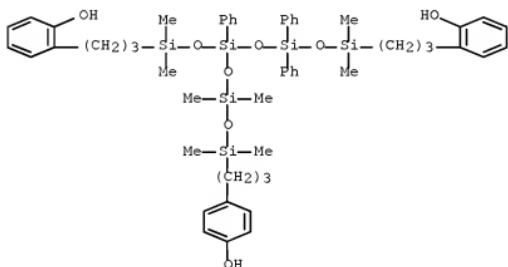
resistant to drip

RN 181355-34-0 HCAPLUS  
CN Carbonic dichloride, polymer with 2,2'-(3-[3-[3-(4-hydroxyphenyl)propyl]-1,1,3,3-tetramethyldisiloxanyl]oxy)-1,1,7,7-tetramethyl-3,5,5-triphenyl-1,7-trisiloxanediyl-3,1-propanediylibis[phenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

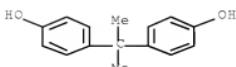
CBN 181355-33-9

CNA C53 H72 08 si6



CM 2

CRN 80-05-7  
CMF C15 H16 02



CM 3

CRN 75-44-5  
CME C C12 O

IC ICM C08L069-00  
 ICS C08L069-00; C08G064-08; C08G077-448; C08K005-098; C08K005-42;  
 C08K005-521; C08L083-10

ICI C08L069-00, C08L083-10  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT Carbonates, uses  
 Phosphates, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fireproofing agents; noncombustible siloxane-modified polycarbonate  
 compns. resistant to dripping in burning)

IT Fire-resistant materials  
 (noncombustible siloxane-modified polycarbonate compns.  
 resistant to dripping in burning)

IT Fireproofing agents  
 (organic alkali or alkaline earth salts; noncombustible siloxane-modified  
 polycarbonate compns. resistant to dripping in  
 burning)

IT Siloxanes and Silicones, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (polycarbonate-, noncombustible siloxane-modified polycarbonate  
 compns. resistant to dripping in burning)

IT Polycarbonates, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (siloxane-, noncombustible siloxane-modified polycarbonate  
 compns. resistant to dripping in burning)

IT 29420-49-3, Megafac F 114 63316-43-8, KSS (sulfonic acid)  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fireproofing agents; noncombustible siloxane-modified polycarbonate  
 compns. resistant to dripping in burning)

IT 181355-34-0P 181355-36-2P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (noncombustible siloxane-modified polycarbonate compns.  
 resistant to dripping in burning)

IT 24936-68-3, Toughlon A 2200, properties 25037-45-0, Bisphenol A-carbonic  
 acid copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (noncombustible siloxane-modified polycarbonate compns.  
 resistant to dripping in burning)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L28 ANSWER 27 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:566810 HCPLUS Full-text  
 DOCUMENT NUMBER: 125:208439  
 ORIGINAL REFERENCE NO.: 125:38753a  
 TITLE: Alkali-developable positive resist material  
 INVENTOR(S): Takemura, Katsuya; Tsucha, Junji; Ishihara, Toshinobu;  
 Tanaka, Haruyori; Kawai, Yoshio; Nakamura, Jiro  
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan; Nippon  
 Telegraph & Telephone  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08160623	A	19960621	JP 1994-331724	19941209 <--
JP 3175514	B2	20010611		

PRIORITY APPLN. INFO.: JP 1994-331724 19941209 <--

AB The material contains a silicone polymer  
 $[Si(CH_2CH_2CO_2Q)_3/2]_x[Si(CH_2CH_2CO_2H)_3/2]_m$  (Q = tert-Bu, tert-butoxycarbonylmethyl, Me<sub>3</sub>Si, tetrahydropyranyl; n = 1-3; x + m = 1; x ≠ 0) and an acid-generating agent, RpJM (R = aromatic group; ≥1 R = R<sub>1</sub>CO-, tert-butoxycarbonyloxy-, or tert-butoxycarbonylmethoxy-substituted phenyl; R<sub>1</sub> = C<sub>1-10</sub> hydrocarbyl; J = sulfonium or iodonium; M = tosyl or triflate; p = 2,3). The material showed high resolution and sensitivity and good O-plasma etching resistance.

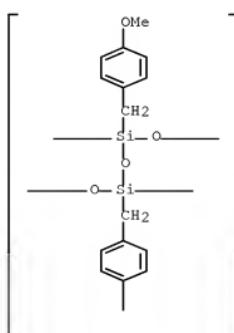
IT 161099-32-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (alkali-developable silicone pos. resist material with high sensitivity and resolution)

RN 161099-32-7 HCPLUS

CN Poly[1,3-bis[(4-methoxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

 $\text{L}_{\text{Me}}$        $\text{L}_n$ 

IC ICM G03F007-039  
ICS G03F007-004; G03F007-029; G03F007-075; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 38  
IT Resists  
(photo-, alkali-developable silicone pos. resist material with high  
sensitivity and resolution)  
IT 75-77-4DP, Trimethylsilyl chloride, reaction products with silsesquioxanes  
161099-32-7P 181036-41-9DP, hydrolyzed, ester with tert-Bu  
bromoacetate 181036-41-9DP, reaction products with tert-Bu alc. and  
trimethylsilyl chloride 181191-68-4DP, hydrolyzed, ester with tert-Bu  
bromoacetate and dihydropyran and reaction products with trimethylsilyl  
chloride  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(alkali-developable silicone pos. resist material with high sensitivity  
and resolution)

L28 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1996:566807 HCAPLUS Full-text  
DOCUMENT NUMBER: 125:208437  
ORIGINAL REFERENCE NO.: 125:38749a,38752a  
TITLE: Alkali-developable positive resist material  
INVENTOR(S): Takemura, Katsuya; Tsucha, Junji; Ishihara, Toshinobu;  
Tanaka, Haruyori; Kawai, Yoshio; Nakamura, Jiro  
PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan; Nippon  
Telegraph & Telephone  
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08160620	A	19960621	JP 1994-331720	19941209 <--
JP 3235388	B2	20011204		
TW 397936	B	20000711	TW 1995-84112843	19951201 <--
US 5612170	A	19970318	US 1995-569659	19951208 <--
KR 212933	B1	19990802	KR 1995-48056	19951209 <--
PRIORITY APPLN. INFO.:				
			JP 1994-331720	A 19941209 <--
			JP 1994-331721	A 19941209 <--
			JP 1994-331722	A 19941209 <--

OTHER SOURCE(S): MARPAT 125:208437

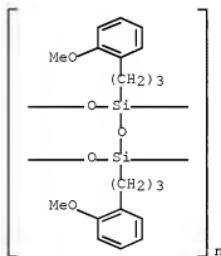
AB The material contains a silicone polymer  $[Si[C(C6H4OQ)H2]nO3/2]x[Si[C(C6H4OH)H2]nO3/2]m$  (Q = tert-butoxycarbonyl, tert-butoxycarbonylmethyl, Me3Si, tetrahydropyranyl; n = 1-3; x + m = 1; x ≠ 0) and an onium salt acid-generating agent RpJM (R = aromatic group; ≥1 R = R13CO-, tert-butoxycarbonyloxy-, or tert-butoxycarbonylmethoxy-substituted phenyl; R1 = C1-10 hydrocarbyl; J = sulfonium or iodonium; M = p-toluenesulfonate or trifluoromethanesulfonate; p = 2, 3). The material showed high resolution and sensitivity and good O-plasma etching resistance.

IT 158445-31-9DP, derivs.

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable silicone pos. resist material containing onium acid generator)

RN 158445-31-9 HCPLUS

CN Poly{[1, 3-bis[3-(2-methoxyphenyl)propyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)]} (9CI) (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; G03F007-029; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT Resists

(photo-, alkali-developable silicone pos. resist material containing onium acid generator)

IT 75-77-4DP, Trimethylsilyl chloride, reaction products with silsesquioxanes 5292-43-3DP, tert-Butyl bromoacetate, reaction products with

silsesquioxanes 24424-99-5DP, Di-tert-butyl dicarbonate, reaction products with silsesquioxanes 25512-65-6DP, Dihydropyran, reaction products with silsesquioxanes 158360-73-7DP, derivs. 158360-74-8DP, derivs. 158445-31-9DP, derivs. 158445-32-0DP, derivs. 161055-58-9DP, derivs. 161099-32-7DP, derivs.

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable silicone pos. resist material containing onium acid generator)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L28 ANSWER 29 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1996:557390 HCPLUS Full-text  
DOCUMENT NUMBER: 125:181341  
ORIGINAL REFERENCE NO.: 125:33713a,33716a  
TITLE: Alkali-developable positive resist material  
INVENTOR(S): Takemura, Katsuya; Tsucha, Junji; Ishihara, Toshinobu; Tanaka, Haruyori; Kawai, Yoshio; Nakamura, Jiro  
PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan; Nippon Telegraph & Telephone  
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 3  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08160605	A	19960621	JP 1994-331722	19941209 <--
JP 3094819	B2	20001003		
TW 397936	B	20000711	TW 1995-84112843	19951201 <--
US 5612170	A	19970318	US 1995-569659	19951208 <--
KR 212933	B1	19990802	KR 1995-48056	19951209 <--
PRIORITY APPLN. INFO.:			JP 1994-331720	A 19941209 <--
			JP 1994-331721	A 19941209 <--
			JP 1994-331722	A 19941209 <--

OTHER SOURCE(S): MARPAT 125:181341

GI For diagram(s), see printed CA Issue.

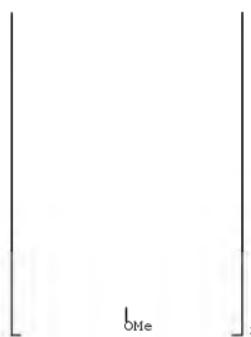
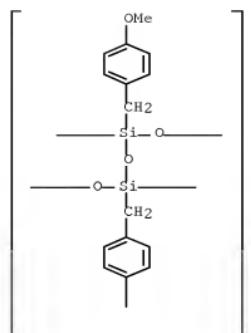
AB The material contains a silicone polymer  
[Si(C(C6H4OQ)H2)nO3/2]x[Si(C(C6H4OH)H2)nO3/2]m (Q = tert-butoxycarbonyl, tert-butoxycarbonylmethyl, Me3Si, tetrahydropyranyl; n = 1-3; x + m = 1; x ≠ 0), an acid generating agent, and a dissoln.-preventing agent R2R12Si(OSiR12)aOSiR2R12, X(OSiR12)2bOX, or I (R1 = Me, Ph; R2 = carboxyethyl, p-hydroxyphenylalkyl; X = Me3Si, Ph3Si, SiR12R2; a = 0-50; b = 1-50; c = 3-10), whose CO2H or OH is protected by tert-Bu group or tert-butoxycarbonylmethyl group. The material showed high resolution and sensitivity and good O-plasma etching resistance.

IT 161099-32-7DP, derivs.

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable silicone pos. resist material with high sensitivity and resolution)

RN 161099-32-7 HCPLUS

CN Poly[(1,3-bis[(4-methoxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (CA INDEX NAME)



IC ICM G03F007-004  
 ICS G03F007-004; G03F007-029; G03F007-039; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT Resists  
 (photo-, alkali-developable silicone pos. resist material with high  
 sensitivity and resolution)  
 IT 75-77-4DP, Trimethylsilyl chloride, reaction products with silsesquioxanes  
 5292-43-3DP, tert-Butyl bromoacetate, reaction products with  
 silsesquioxanes 24424-99-5DP, Di-tert-butyl dicarbonate, reaction  
 products with silsesquioxanes 25512-65-6DP, Dihydropyran, reaction

products with silsesquioxanes 26403-67-8DP, Methyl hydrogen siloxane, trimethylsilyl-terminated, reaction products with butoxystyrene 49718-23-2DP, Methylsilanediol homopolymer, trimethylsilyl-terminated, reaction products with siloxanes 152266-34-7P 161055-58-9DP, reaction products with siloxanes 152266-34-7P 161055-58-9DP, derivs. 161099-32-7DP, derivs. 175032-79-8P 180890-92-0DP, trimethylsilyl-terminated, esters 180890-93-1P, Poly[(2-carboxyethyl)methylsilylene] 180890-95-3P 180890-96-4P 180890-98-6P 180890-99-7P  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (alkali-developable silicone pos. resist material with high sensitivity and resolution)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L28 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:545608 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:181345  
 ORIGINAL REFERENCE NO.: 125:33713a,33716a  
 TITLE: Alkali-developable positive resist material  
 INVENTOR(S): Takemura, Katsuya; Tsucha, Junji; Ishihara, Toshinobu; Tanaka, Haruyori; Kawai, Yoshio; Nakamura, Jiro  
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan; Nippon Telegraph & Telephone  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08160621	A	19960621	JP 1994-331721	19941209 <--
JP 3198848	B2	20010813		
TW 397936	B	20000711	TW 1995-84112843	19951201 <--
US 5612170	A	19970318	US 1995-569659	19951208 <--
KR 212933	B1	19990802	KR 1995-48056	19951209 <--
PRIORITY APPLN. INFO.:			JP 1994-331720	A 19941209 <--
			JP 1994-331721	A 19941209 <--
			JP 1994-331722	A 19941209 <--

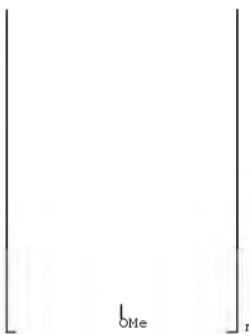
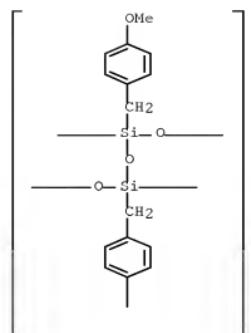
AB The material contains a silicone polymer  $[Si[C(C_6H_4OQ)H_2]nO_3/2]_x[Si[C(C_6H_4OH)H_2]nO_3/2]_m$  ( $Q =$  tert-butoxycarbonyl, tert-butoxycarbonylmethyl,  $Me_3Si$ , tetrahydropyranyl;  $n = 1-3$ ;  $x + m = 1$ ;  $x \neq 0$ ), an acid-generating agent, and a N-containing compound. The material showed high resolution and sensitivity and good O-plasma etching resistance.

IT 161099-32-7DP, derivs.

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (alkali-developable silicone pos. resist material with high sensitivity and resolution)

RN 161099-32-7 HCAPLUS

CN Poly[1,3-bis[(4-methoxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; G03F007-029; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT Resists

(photo-, alkali-developable silicone pos. resist material with high sensitivity and resolution)

IT 75-77-4DP, Trimethylsilyl chloride, reaction products with silsesquioxanes 5292-43-3DP, tert-Butyl bromoacetate, reaction products with silsesquioxanes 24424-99-5DP, Di-tert-butyl dicarbonate, reaction products with silsesquioxanes 25512-65-6DP, Dihydropyran, reaction

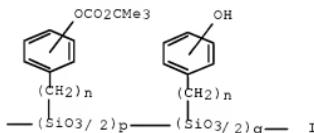
products with silsesquioxanes 161055-58-9DP, derivs.  
161099-32-7DP, derivs.

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable silicone pos. resist material with high sensitivity and resolution)

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

L28 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1996:294909 HCAPLUS Full-text  
DOCUMENT NUMBER: 125:22307  
ORIGINAL REFERENCE NO.: 125:4279a,4282a  
TITLE: Positive-working silicone resist materials  
INVENTOR(S): Tanaka, Haruyori; Kawai, Yoshio; Nakamura, Jiro;  
Matsuda, Korehito  
PATENT ASSIGNEE(S): Nippon Telegraph & Telephone, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

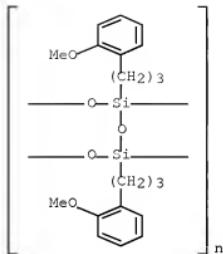
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
----- JP 08029987	----- A	----- 19960202	----- JP 1994-187885	----- 19940719 <-- 19940719 <-- GI



AB The title materials, which are alkali-developable and high energy ray-sensitive, contain a silicone polymer I ( $p + q = 1$ ,  $x \neq 0$ ;  $n = 1-3$ ), an onium salt, and a N-containing compound. The materials show high photosensitivity, high resolution, and good processability, and O plasma etching resistance. Thus, a resist comprised tert-butylcarbonated poly(hydroxybenzylsilsesquioxane), bis(tert-butylphenyl) iodonium trifluoromethanesulfonate, and o-aminobenzoic acid.

IT 158445-31-9DP, hydrolyzed, tert-Bu carbonate ester  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

RN 158445-31-9 HCAPLUS  
CN Poly[(1,3-bis[3-(2-methoxyphenyl)propyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



IC ICM G03F007-075  
 ICS G03F007-075; G03F007-004; G03F007-029; G03F007-26; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Resists  
 (pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

IT Silsesquioxanes  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

IT 62-53-3, Aniline, uses 95-54-5, o-Phenylenediamine, uses 99-05-8  
 106-50-3, p-Phenylenediamine, uses 108-45-2, 1,3-Benzenediamine, uses 118-92-3, o-Aminobenzoic acid 122-39-4, Diphenylamine, uses 150-13-0, p-Aminobenzoic acid 872-50-4, N-Methylpyrrolidone, uses 157089-26-4  
 157959-61-0, Bis(tert-butylphenyl)iodonium trifluoromethanesulfonate  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

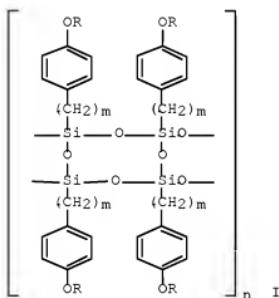
IT 158360-73-7DP, hydrolyzed, tert-Bu carbonate ester 158360-74-8DP,  
 hydrolyzed, tert-Bu carbonate ester 158360-76-0DP, hydrolyzed, tert-Bu carbonate ester 158445-31-9DP, hydrolyzed, tert-Bu carbonate ester 158445-32-0DP, hydrolyzed, tert-Bu carbonate ester 158445-33-1DP, hydrolyzed, tert-Bu carbonate ester  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

IT 104133-11-1, Methylsilanetriol homopolymer 153315-80-1,  
 Methylsilanetriol homopolymer, ladder srn  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pos.-working resist composition containing silsesquioxane and onium salt and nitrogen compound)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

ORIGINAL REFERENCE NO.: 122:27079a, 27082a  
 TITLE: Acid-sensitive resist and patterning of same  
 PATENT ASSIGNEE(S): International Business Machines Corp., USA  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

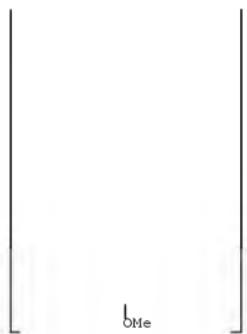
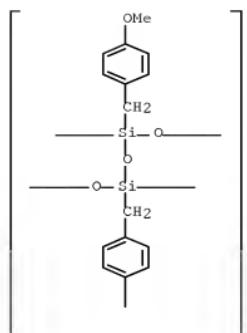
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06184311	A	19940705	JP 1993-210073	19930825 <--
JP 2501292	B2	19960529		
US 5338818	A	19940816	US 1992-943086	19920910 <--
PRIORITY APPLN. INFO.:			US 1992-943086	A 19920910 <--
GI				



AB The title pos.-working resist contains acid-sensitive arylsilsesquioxanes [ I;  $m = 0, 1; n \geq 3; \geq 15\% \text{ of } R \text{ is tert-butyloxycarbonyl, secondary alkylloxycarbonyl, other inactive benzyloxycarbonyl with the remainder H} \text{] containing protected phenolic OHs in a pendant group capable of yielding phenolic OHs upon reaction with acids, the protective group serving as a dissoln. inhibitor. The title patterning is effected by coating a substrate with the resist composition containing the above polymer, a photo acid generator, and anthracene-type sensitizers, baking, patternwise exposing, and developing with alkali. }$

IT 161099-32-7DP, hydrolyzed, esters with di-tert-Bu dicarbonate  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (pos.-working photoresist composition from)  
 161099-32-7 HCAPLUS

CN Poly[1,3-bis[(4-methoxyphenyl)methyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (CA INDEX NAME)

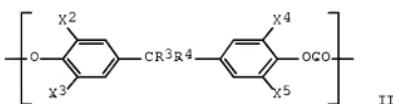
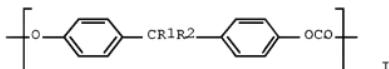


IC ICM C08G077-38  
 ICS C08L083-06; G03F007-075  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resists  
 (photo-, acid-sensitive silsesquioxane)  
 IT 161055-58-9P, Trichloro[(4-methoxyphenyl)methyl]silane hydrolytic  
 homopolymer 161099-32-7DP, hydrolyzed, esters with di-tert-Bu  
 dicarbonate  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (pos.-working photoresist composition from)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

L28 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1995:312674 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 122:267184  
 ORIGINAL REFERENCE NO.: 122:48769a,48772a  
 TITLE: Polycarbonate compositions with excellent flame and solvent resistance, fluidity, releasability, and mechanical strength  
 INVENTOR(S): Okamoto, Masaya; Okumura, Ryozo  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06287433	A	19941011	JP 1993-76712	19930402 <--
PRIORITY APPLN. INFO.:			JP 1993-76712	19930402 <--
GI				



AB The compns. contain (a) 1-99% OC<sub>6</sub>H<sub>(5-m)</sub>X<sub>1m</sub> (X<sub>1</sub> = halogen; m = 1-5)-terminated polycarbonate-polyorganosiloxane block copolymers containing repeating units I (R<sub>1</sub>, R<sub>2</sub> = H, Cl-4 alkyl), II (R<sub>3</sub>, R<sub>4</sub> = H, Cl-4 alkyl; X<sub>2</sub>-X<sub>5</sub> = halogen), and AR<sub>9</sub>(SiR<sub>5</sub>R<sub>6</sub>O)<sub>k</sub>SiR<sub>7</sub>R<sub>8</sub>R<sub>10</sub>ACO (R<sub>5</sub>-R<sub>8</sub> = H, Cl-6 alkyl, Ph; R<sub>9</sub>, R<sub>10</sub> = aliphatic or aromatic divalent organic residue; A = O, NH, direct link; k = 1-500) and (b) 1-99% thermoplastic polyesters. Thus, a solution of 40 g 2-hydroxyphenyl-terminated polydimethylsiloxane (III; prepared from octamethylcyclotetrasiloxane, 1,1,3,3-tetramethyldisiloxane, and 2-allylphenol) in 10 L bisphenol A (IV)-COC<sub>12</sub> copolymer oligomer (d.p. 2-4) CH<sub>2</sub>C<sub>12</sub> solution (containing 11.6 mol IV) was mixed with a solution of 0.6 mol 3,3',5,5'-tetrabromobisphenol A and 0.51 mol tribromophenol in NaOH aqueous solution, stirred with 2.9 mL Et<sub>3</sub>N for 60 min, and then stirred with a solution of 500 g IV in NaOH aqueous solution and CH<sub>2</sub>C<sub>12</sub> for 60 min to prepare a polymer (III 1.1%, Br 7.9%, viscosity-average mol. weight 20,500), which was dried at 120° overnight. The polymer (70 parts) was dry-blended with 30 parts Dianite MA 523, pelletized, dried, and injection-molded to give a test piece showing tensile strength 630 kg/cm<sup>2</sup> (JIS K 7113), critical strain 0.51 (1/4

ellipticity in a 6:4 isoctane-toluene mixture), flame retardance V-0 in the UL-94 vertical burning test, and flow rate 14 + 10-2 mL/s (JIS K 7210). IT 162746-33-0DP, bromophenyl-terminated

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
(flame- and solvent-resistant polycarbonate compns.  
with good fluidity and mech. strength and mold-release properties)

RN 162746-33-0 HCAPLUS

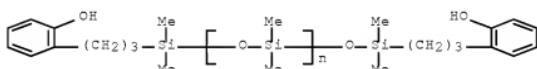
CN Carbonic dichloride, polymer with  $\alpha$ -[(3-(2-hydroxyphenyl)propyl)dimethylsilyl]- $\omega$ -[(3-(2-hydroxyphenyl)propyl)dimethylsilyl]oxypoly[oxy(dimethylsilylene)], 4,4'-(1-methylethylidene)bis[2,6-dibromophenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 158167-48-7

CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>22</sub> H<sub>34</sub> O<sub>3</sub> Si<sub>2</sub>

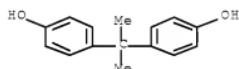
CCI PMS



CM 2

CRN 80-05-7

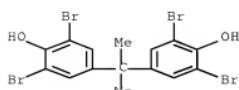
CMF C<sub>15</sub> H<sub>16</sub> O<sub>2</sub>



CM 3

CRN 79-94-7

CMF C<sub>15</sub> H<sub>12</sub> Br<sub>4</sub> O<sub>2</sub>



CM 4

CRN 75-44-5

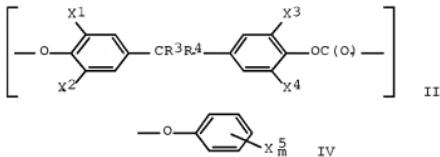
CMF C Cl2 O



IC ICM C08L069-00  
 ICS C08L069-00; C08L067-02; C08L083-10  
 CC 37-6 (Plastics Manufacture and Processing)  
 ST flame resistance polycarbonate polyorganosiloxane; solvent  
 resistance polycarbonate siloxane compn; mech strength  
 polycarbonate siloxane compn; fluidity polycarbonate siloxane block  
 copolymer; mold release polycarbonate siloxane compn; halophenyl  
 termination polycarbonate siloxane compn; methylsiloxane copolymer PET  
 blend; bromobisphenol copolymer PET blend; bromophenoxy termination block  
 polycarbonate siloxane  
 IT Polyesters, properties  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (flame- and solvent-resistant polycarbonate compns.  
 with good fluidity and mech. strength and mold-release properties)  
 IT Siloxanes and Silicones, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (polycarbonate-, block, flame- and solvent-resistant  
 polycarbonate compns. with good fluidity and mech. strength  
 and mold-release properties)  
 IT Polycarbonates, preparation  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (siloxane-, block, flame- and solvent-resistant polycarbonate  
 compns. with good fluidity and mech. strength and mold-release  
 properties)  
 IT 98-54-4DP, p-tert-Butylphenol, reaction products with  
 polycarbonate-siloxane block copolymers 25376-38-9DP, Tribromophenol,  
 reaction products with polycarbonate-siloxane block copolymers  
 159207-76-8DP, bromophenyl-terminated 162746-33-0DP,  
 bromophenyl-terminated  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (flame- and solvent-resistant polycarbonate compns.  
 with good fluidity and mech. strength and mold-release properties)  
 IT 24968-12-5, Duranex 2002 25038-59-9, Dianite MA 523, properties  
 26062-94-2, Butylene glycol-terephthalic acid copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (flame- and solvent-resistant polycarbonate compns.  
 with good fluidity and mech. strength and mold-release properties)  
 IT 158167-48-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation of block polycarbonate-siloxanes)

ACCESSION NUMBER: 1995:312672 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:316076  
 ORIGINAL REFERENCE NO.: 122:57485a,57488a  
 TITLE: Fire-resistant polycarbonate compositions with good mechanical strength, fluidity, and mold-release properties  
 INVENTOR(S): Okamoto, Masaya; Okumura, Ryo  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06287430	A	19941011	JP 1993-76717	19930402 <--
PRIORITY APPLN. INFO.:			JP 1993-76717	19930402 <--
GI				



AB The compns. comprise (A) 1-99% polycarbonate-polyorganosiloxane block copolymers from (a) main chains having repeating units -O-p-C6H4CR1R2-p-C6H4O2C- (I; R1, R2 = H, C1-4 alkyl), II (R3, R4 = H, C1-4 alkyl; X1-X4 = halo), and -AR9(SiR5R6O)kSiR7R8R10ACO- (III; R5-R8 = H, C1-6 alkyl, Ph; R9, R10 = aliphatic or aromatic divalent organic residue; A = O, NH, direct link; k = 1-500) and (b) terminal groups IV (X5 = halo; m = 1-5) and (B) 1-99% elastomers. Thus, 90% polycarbonate-polyorganosiloxane copolymer [prepared from polycarbonate oligomer (from bisphenol A and phosgene; d.p. 2-4) 3170, phenol-terminated polyorganosiloxane (prepared from octamethylcyclotetrasiloxane 1483, 1,1,3,3-tetramethyldisiloxane 96, and 2-allylphenol 60 g; k = 30) 40, tetrabromobisphenol A 330, tribromophenol 169, and bisphenol A 500 g; polyorganosiloxane content 1.1%; Br content 7.9%; viscosity-average mol. weight 20,500] and 10% Paraloid KM 330 (Bu acrylate-Me methacrylate-styrene graft copolymer rubber) were mixed, kneaded at 270°, pelletized, and injection-molded to give a test piece having tensile strength 650 kg/cm<sup>2</sup>, Izod impact strength 61 kg-cm/cm, UL-94 fire-resistance rating V-0 (1/16") and V-2 (1/32"), and fluidity 14 + 10-2 mL/s.

IT 162746-33-0DP, tribromophenyl-terminated  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)  
 (fire-resistant polycarbonate blends with good mech. strength, fluidity, and mold-release properties)

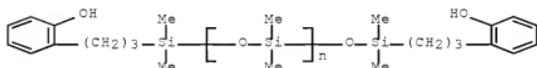
RN 162746-33-0 HCAPLUS

CN Carbonyl dichloride, polymer with α-[3-(2-

hydroxyphenyl)propyl]dimethylsilyl)- $\omega$ -{[(3-(2-hydroxyphenyl)propyl]dimethylsilyl]oxylpoly[oxy(dimethylsilylene)], 4,4'-(1-methylethylidene)bis[2,6-dibromophenol] and 4,4'-(1-methylethylidene)bis[phenol]} (9CI) (CA INDEX NAME)

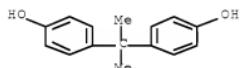
CM 1

CRN 158167-48-7  
 CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>22</sub> H<sub>34</sub> O<sub>3</sub> Si<sub>2</sub>  
 CCI PMS



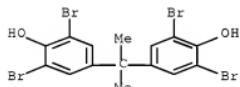
CM 2

CRN 80-05-7  
 CMF C<sub>15</sub> H<sub>16</sub> O<sub>2</sub>



CM 3

CRN 79-94-7  
 CMF C<sub>15</sub> H<sub>12</sub> Br<sub>4</sub> O<sub>2</sub>



CM 4

CRN 75-44-5  
 CMF C C<sub>12</sub> O

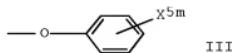
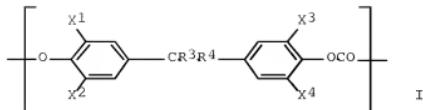


IC ICM C08L069-00  
 ICS C08L009-00; C08L083-10  
 ICA C08G064-26  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT 98-54-4DP, p-tert-Butylphenol, reaction products with  
 polycarbonate-siloxane block copolymers 25376-38-9DP, Tribromophenol,  
 reaction products with polycarbonate-siloxane block copolymers  
 159207-76-8DP, tribromophenyl-terminated 162746-33-0DP,  
 tribromophenyl-terminated  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); PREP (Preparation); USES (Uses)  
 (fire-resistant polycarbonate blends with good mech. strength,  
 fluidity, and mold-release properties)  
 IT 158167-48-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (fire-resistant polycarbonate blends with good mech. strength,  
 fluidity, and mold-release properties)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

L28 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1995:312626 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:267021  
 ORIGINAL REFERENCE NO.: 122:48745a,48748a  
 TITLE: Fire-resistant polycarbonate  
 compositions containing siloxane-polycarbonate  
 block copolymers  
 INVENTOR(S): Okamoto, Masaya; Okumura, Ryozo  
 PATENT ASSIGNEE(S): Idemitsu Petrochemical Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 06279667	A	19941004	JP 1993-66457	19930325 <--
JP 3185903	B2	20010711	JP 1993-66457	19930325 <--

PRIORITY APPLN. INFO.:  
 GI



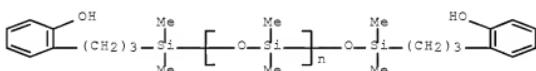
AB Transparent compns. with high impact resistance and good mold-release properties comprise 0.1-99.9% block polycarbonate-siloxanes including O-p-C<sub>6</sub>H<sub>4</sub>CR1R2-p-C<sub>6</sub>H<sub>4</sub>02C units (R<sub>1</sub>, R<sub>2</sub> = H, Cl-4 alkyl), I units (R<sub>3</sub>, R<sub>4</sub> = H, Cl-4 alkyl; X<sub>1</sub>-X<sub>4</sub> = halo), and AR9(SiR5R60)kSiR7R8R10ACO (II; R<sub>5</sub>-R<sub>8</sub> = H, Cl-6 alkyl, Ph; R<sub>9</sub>, R<sub>10</sub> = divalent organic residue; A = O, NH, direct link; k = 1-100) units, terminated by phenoxy groups III (X<sub>5</sub> = halo; m = 1-5) and 0.1-99.9% polycarbonates, in which the content of II is 0.01-10% that of the bisphenol polycarbonates. Thus, 10 L bisphenol A (IV)-COC<sub>12</sub> oligomer was treated with (a) 40 g [3-(2-hydroxyphenyl)propyl]dimethylsilyl-terminated poly(octamethylcyclotetrasiloxane), (b) 330 g tetrabromobisphenol A (V), and (c) 169 g tribromophenol in the presence of Et<sub>3</sub>N for 60 min to give a block copolymer, 50% of which was dry-blended with 50% IV-V-COC<sub>12</sub> copolymer, kneaded at 270°, pelletized, dried at 120° for 12 h, and injection-molded to give a test piece showing UL-94 flame retardance V-0, Izod impact resistance 77 kJ/m<sup>2</sup> (23°), 74 kJ/m<sup>2</sup> (0°), and haze 3%.

IT 158167-48-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of block polycarbonate-siloxanes)

RN 158167-48-7 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -{[3-(2-hydroxyphenyl)propyl]dimethylsilyl}- $\omega$ -{[(3-(2-hydroxyphenyl)propyl]dimethylsilyl]oxy}- (CA INDEX NAME)



IC ICM C08L069-00  
ICS C08G064-10; C08G064-18; C08G081-00; C08L083-10  
CC 37-3 (Plastics Manufacture and Processing)  
IT 158167-48-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of block polycarbonate-siloxanes)

L28 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1994:689666 HCAPLUS Full-text  
DOCUMENT NUMBER: 121:289666

ORIGINAL REFERENCE NO.: 121:52719a,52722a  
 TITLE: Photoresist composition  
 INVENTOR(S): Kobayashi, Yoshihito  
 PATENT ASSIGNEE(S): Tokyo Shibaura Electric Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

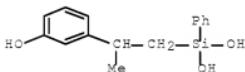
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06075377	A	19940318	JP 1992-226130	19920825 <--
			JP 1992-226130	19920825 <--

PRIORITY APPLN. INFO.: AB The title composition comprises an alkali-soluble polymer, a compound having a substituent decomposing by an acid, and a photo acid generator, R<sub>2</sub>SO<sub>3</sub>CR<sub>1</sub>R<sub>3</sub>C.tpbond.CC.tpbond.CCR<sub>4</sub>R<sub>6</sub>O<sub>3</sub>SR<sub>5</sub> [ R<sub>1-6</sub> = aromatic hydrocarbyl, heterocyclyl, aliphatic hydrocarbyl, characteristic group, H ]. The composition showed high sensitivity to both deep UV and ionization radiation and was alkali-developable.

IT 159103-14-7  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (deep UV sensitive alkali-developable photoresist composition)

RN 159103-14-7 HCPLUS  
 CN Silanediol, diphenyl-, polymer with  
 [2-(3-hydroxyphenyl)propyl]phenylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 159103-13-6  
 CMF C15 H18 O3 Si

CM 2

CRN 947-42-2  
 CMF C12 H12 O2 Si

IC ICM G03F007-039

ICS C08K005-42; C08L101-00; G03F007-004; H01L021-312  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 76

## IT Resist

(photo-, deep UV sensitive photoresist composition)  
 IT 24979-70-2, Poly(p-vinylphenol) 159103-11-4 159103-12-5  
 159103-14-7 159103-15-8 159103-16-9 159103-20-5  
 159103-22-7 159103-24-9  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (deep UV sensitive alkali-developable photoresist composition)

L28 ANSWER 37 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1994:641833 HCPLUS Full-text  
 DOCUMENT NUMBER: 121:241833  
 ORIGINAL REFERENCE NO.: 121:43905a,43908a  
 TITLE: Positive-working resist materials consisting of  
 silicone resin and onium salt  
 INVENTOR(S): Tanaka, Haruyori; Kawai, Yoshio; Matsuda, Korehito  
 PATENT ASSIGNEE(S): Nippon Telegraph & Telephone, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

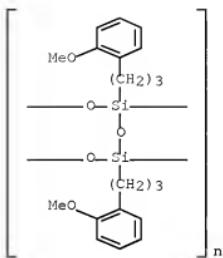
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06118651	A	19940428	JP 1992-294009	19921008 <--
PRIORITY APPLN. INFO.:			JP 1992-294009	19921008 <--
GI				



AB The title resist materials can be developed by aqueous base and are sensitive to high energy rays, and contain a silicone polymer I ( $x + m = 1$ ;  $x \neq 0$ ;  $n = 1-3$ ) and RpAM [ $R =$  (substituted) aromatic group; A = sulfonium, iodonium; M =  $MeC_6H_4SO_3-$ ,  $CF_3SO_3-$ ; p = 2, 3]. These resist show good photosensitivity, high resolution, and improved processability. Thus, (ethoxybenzyl)trichlorosilane was hydrolyzed, polymerized, treated with trimethylsilyl iodide, and then with di-tert-Bu dicarbonate to give poly(p-hydroxybenzylsilsesquioxane) tert-Bu carbonate (II). A typical resist contains II and (p-MeO6H4)PhI+ p-MeC6H4SO3-.  
 IT 158445-31-9DP, hydrolyzed, tert-Bu carbonate  
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of, resists containing oniums and, pos.-working, alkali-developable)

RN 158445-31-9 HCAPLUS

CN Poly[1,3-bis(3-(2-methoxyphenyl)propyl]-1,3:1,3-disiloxanediylidene]-1,3-bis(oxy)] (9CI) (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; G03F007-029; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Resist

(pos.-working, alkali-developable, containing silicones and oniums)

IT 158360-73-7DP, hydrolyzed, tert-Bu carbonate 158360-74-8DP, hydrolyzed, tert-Bu carbonate 158360-76-0DP, hydrolyzed, tert-Bu carbonate  
158445-31-9DP, hydrolyzed, tert-Bu carbonate  
158445-32-0DP, hydrolyzed, tert-Bu carbonate  
158445-33-1DP, hydrolyzed, tert-Bu carbonateRL: DEV (Device component use); SPN (Synthetic preparation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation of, resists containing oniums and, pos.-working,  
alkali-developable)OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)

L28 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:549495 HCAPLUS Full-text

DOCUMENT NUMBER: 119:149495

ORIGINAL REFERENCE NO.: 119:26551a,26554a

TITLE: Negative-working photoresist composition

INVENTOR(S): Kobayashi, Yoshihito; Niki, Hiroichi; Oonishi, Kyonobu

PATENT ASSIGNEE(S): Toshiba Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04340550	A	19921126	JP 1991-112079	19910517 <--
PRIORITY APPLN. INFO.:			JP 1991-112079	19910517 <--

AB The title photoresist composition contains an alkali-soluble polymer and R2CR1R3C.tplbond.CC.tplbond.CR4R5R6 [R1-6 = H, aromatic hydrocarbon group, heterocyclyl, or carboarom. or carbocyclic group; R1 and R2 or R4 and R5 may form hydrocarbon or heterocyclic ring]. The composition shows high sensitivity to KrF excimer laser and can be used for high-resolution patterning.

IT 119588-34-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist composition containing)

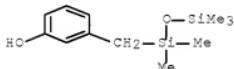
RN 119588-34-0 HCPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethyldisiloxanyl)methyl]phenol (9CI) (CA INDEX NAME)

CM 1

CRN 119588-33-9

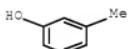
CMF C12 H22 O2 Si2



CM 2

CRN 108-39-4

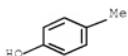
CMF C7 H8 O



CM 3

CRN 106-44-5

CMF C7 H8 O



CM 4

CRN 50-00-0

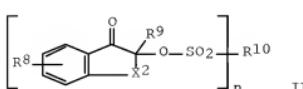
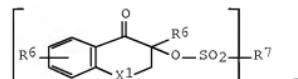
GMF C H2 O

$$\text{H}_2\text{C}=\text{O}$$

IC ICM G03F007-025  
 ICS G03F007-004; G03F007-023; G03F007-038; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resists  
 (photo-, neg.-working, high-sensitivity)  
 IT 3031-68-3, 2,4-Hexadiyne-1,6-diol 23487-69-6 24979-70-2,  
 Poly(p-vinylphenol) 24996-66-5 27029-76-1,  
 m-Cresol-p-cresol-formaldehyde copolymer 32527-15-4  
 119586-34-0 120551-36-2 135831-10-6 149873-02-9  
 149873-03-0 149873-04-1 149873-05-2 149873-06-3 149873-07-4  
 149873-08-5 149873-09-6 149873-10-9 149873-11-0 149873-12-1  
 149873-13-2 149972-27-0 149972-28-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoresist composition containing)

L28 ANSWER 39 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1992:601937 HCPLUS Full-text  
DOCUMENT NUMBER: 117:201937  
ORIGINAL REFERENCE NO.: 117:34681a,34684a  
TITLE: photosensitive composition for high resolution  
lithography  
INVENTOR(S): Kobayashi, Yoshihito; Niki, Hiroichi; Onishi, Kiyonobu  
PATENT ASSIGNEE(S): Toshiba Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
JP 03289659 A 19911219 JP 1990-285776 19901025 <--  
PRIORITY APPLN. INFO.: JP 1990-76601 A1 19900328 <--  
GI



AB The title photosensitive composition comprises an alkali soluble polymer, an organic dissoln. suppressing agent containing a substituent decomposable by an acid, and a photoacid generator selected from [R1C(O)CR2R3OSO2]nR4, I, II, and [R11C(O)CR12R13CR14HOSO]nR4 [R1-3, R5,6, R8,9, R11-14 = H, halo, CN, silyl, monovalent organic group; R4, R7, R10, R15 = organic group; n = 1-7; X1,2 = O, S, CO, SO2, CR1R2, NCOR3].

IT 119588-34-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist composition containing)

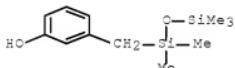
RN 119588-34-0 HCAPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethylsiloxy) methyl]phenol (9CI) (CA INDEX NAME)

CM 1

CRN 119588-33-9

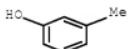
CMF C12 H22 O2 Si2



CM 2

CRN 108-39-4

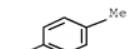
CMF C7 H8 O



CM 3

CRN 106-44-5

CMF C7 H8 O



CM 4

CRN 50-00-0  
 CMF C H2 O

H2C=O

IC ICM G03F007-075  
 ICS G03F007-004; G03F007-039; H01L021-027  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resists  
 (photo-, composition, for high resolution patterning)  
 IT 4298-69-5 9010-92-8 19255-01-7 24979-70-2, Poly(p-vinylphenol)  
 25053-68-7, p-Cresol-formaldehyde copolymer 25085-34-1 25086-36-6,  
 m-Cresol-formaldehyde copolymer 41996-76-3 51256-40-7 82540-07-6  
 87456-51-7 87456-53-9 87456-54-0 87456-61-9 102868-49-5  
 119588-34-0 143897-22-7 143897-23-8 143897-24-9  
 143897-25-0 143897-26-1 143897-27-2 143897-28-3 143897-29-4  
 143897-30-7 143897-31-8 143897-32-9 143897-33-0 143897-34-1  
 143897-35-2 143897-36-3 143897-37-4 143897-38-5 143897-39-6  
 143897-40-9 143897-41-0 143897-42-1 143897-43-2 143897-44-3  
 143897-45-4 143897-46-5 143897-47-6 143897-48-7 143897-49-8  
 143897-50-1 143897-51-2 143897-52-3 143897-53-4 143897-54-5  
 143908-37-6 143987-45-5 144025-37-6  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoresist composition containing)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

L28 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1992:560638 HCAPLUS Full-text.  
 DOCUMENT NUMBER: 117:160638  
 ORIGINAL REFERENCE NO.: 117:27589a,27592a  
 TITLE: A novel silicon-containing resist for half-micron  
 photolithography  
 AUTHOR(S): Noguchi, Tsutomu; Nito, Keiichi; Tomita, Hidemi; Seto,  
 Junetsu  
 CORPORATE SOURCE: Res. Cent., Sony Corp., Yokohama, 240, Japan  
 SOURCE: Polym. Microelectron. Proc. Int. Symp. (1990  
 ), Meeting Date 1989, 305-16. Editor(s): Tabata, Yoneho. Kodansha:  
 Tokyo, Japan.  
 CODEN: 57NMAB  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English  
 AB A new pos. working photoresist which is applicable to the bi-layer resist  
 system using a current optical reduction stepper was developed. This resist  
 consists of a naphthoquinone diazide photoactive compound and a silicon  
 containing novolak resin prepared by condensation of phenols with siloxane  
 groups (-Si-O-) with formaldehyde. The Si-containing resist has a resolution  
 capability of 0.5  $\mu$ m L/S with a g-line sensitivity apprx.250 mJ/cm<sup>2</sup>, and a  
 high resistance to an O2 plasma, with an etching rate ratio of 61:1  
 (photoresist/Si resist). 0.5  $\mu$ m L/S pattern was precisely transferred to the  
 bottom layer by O2 RIE with vertical side walls. The two-dimensional  
 development process simulation program SAMPLE was improved to carry out more  
 precise profile simulation. A modified string model which takes into account

the shape of the resist profile during development is proposed. The 0.5  $\mu$ m L/S pattern profiles were simulated well with our modified model.

IT 117476-22-9P

RL: PREP (Preparation)

(lithog. pos.-working photoresist containing naphthoquinone diazide photoactive compound and, preparation and characterization of)

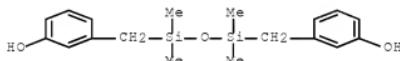
RN 117476-22-9 HCPLUS

CN Formaldehyde, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 117476-21-8

CMF C18 H26 O3 Si2



CM 2

CRN 50-00-0

CMF C H2 O

H2C=O

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Resist

(photo-, pos.-working, containing naphthoquinone diazide photoactive compound and silicon-containing novolak resin)

IT 117476-22-9P

RL: PREP (Preparation)

(lithog. pos.-working photoresist containing naphthoquinone diazide photoactive compound and, preparation and characterization of)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L28 ANSWER 41 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:521564 HCPLUS Full-text

DOCUMENT NUMBER: 117:121564

ORIGINAL REFERENCE NO.: 117:20956h,20957a

TITLE: Photosensitive composition containing phenol polymer and 5-membered ring heterocyclic compound

INVENTOR(S): Kobayashi, Yoshikimi; Onishi, Kiyonobu; Niki, Hiroichi; Kawamonden, Yoshihiro

PATENT ASSIGNEE(S): Toshiba Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

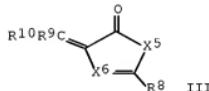
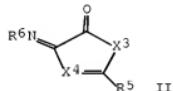
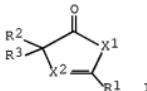
LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03208056	A	19910911	JP 1990-2543	19900111 <--
PRIORITY APPLN. INFO.:			JP 1990-2543	19900111 <--
GI				



AB A photosensitive composition contains a phenol-type alkali-soluble polymer, a 5-membered ring heterocyclic compound [I, II, or III; X1, X3, X5 = O, S; X2 = N, CR4; X4 = N, CR7; X6 = N, CR11; R1-R11 = H, (un)substituted heterocyclic or aromatic or aliphatic hydrocarbyl, other functional group; or R2R3 or R9R10 may form a carbo- or heterocyclic ring], and a compound generating an acid upon light irradiation. Preferably at least one of the substituents R1-R3 in I, R5 and R6 in II, or R8-R10 in III is a Si-containing functional group and a phenol-type Si-containing alkali-soluble polymer is used. The photosensitive composition can be exposed by a short wavelength radiation such as deep UV, shows excellent resistance against dry etching and O-reactive ion etching, has large tolerance in exposure and development by an aqueous alkali solution, can form detailed patterns having good cross-sectional shapes, and is suitable for alkali-developable single- or double-layer lithog. process. The acid released by the deep UV irradiation of the photosensitive composition decomp. I-III, increases the alkali solubility of the composition, and allows the exposed parts to dissolve by alkali development to give pos. patterns. Neg. patterns are also formed by exposure, heat treatment, and alkali development. Using the pos. patterns as the masks against polymer underlayers, dry etching gives double-layer patterns with good aspect ratios and cross-sectional shapes. Typically it gives neg.- or pos.-working patterns having line width or line-to-line distance of 0.3μm.

IT 119588-34-0

RL: USES (Uses)

(alkali-developable photosensitive composition containing, for patterning)

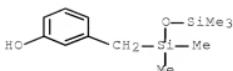
RN 119588-34-0 HCPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethyldisiloxanyl)methyl]phenol (9CI) (CA INDEX NAME)

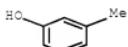
CM 1

CRN 119588-33-9

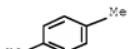
CMF C12 H22 O2 Si2



CM 2

CRN 108-39-4  
CMF C7 H8 O

CM 3

CRN 106-44-5  
CMF C7 H8 O

CM 4

CRN 50-00-0  
CMF C H2 O

H2C=O

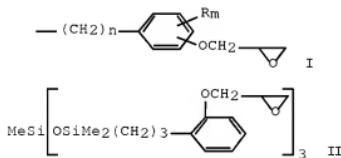
IC ICM G03F007-038  
 ICS G03F007-031; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resist  
 (photo-, UV, deep, laser-sensitive, containing phenol resins, pyranone or  
 azolone derivs., and acid-releasing compds.)  
 IT 24979-70-2, Poly(p-vinylphenol) 119588-34-0  
 RL: USES (Uses)  
 (alkali-developable photosensitive composition containing, for patterning)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD

(1 CITINGS)

L28 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1992:215654 HCAPLUS Full-text  
 DOCUMENT NUMBER: 116:215654  
 ORIGINAL REFERENCE NO.: 116:36557a,36560a  
 TITLE: Heat- and moisture-resistant thermosetting  
 resin compositions  
 INVENTOR(S): Miyagawa, Hiroyuki; Ora, Akio; Hirose, Shoichi  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03275712	A	19911206	JP 1990-77636	19900326 <--
PRIORITY APPLN. INFO.:			JP 1990-77636	19900326 <--

GI



AB The title compns. with good epoxy resin compatibility, giving flexible elec. insulating products useful for adhesives and sealants, comprise organic Si compds. containing  $\geq 3$  Si-bonded units I ( $R = C1-20$  alkyl, alkoxy, substituted alkyl;  $n = 2, 3$ ;  $m = 0-4$ ) and compds. containing  $\geq 2$  epoxy-reactive functional groups and/or epoxy ring-opening polymerization initiators. Thus, addition reaction of  $\alpha$ -allylphenyl glycidyl ether and TSL 8242 [ $MeSi(OSiHMe2)_3$ ] gave 94% silane II, 33 parts of which was blended with EOCN 1020 (epoxy resin) 100, H 1 (phenol novolak) 62,  $PFPh_3$  1.33, and  $\gamma$ -glycidoxypropyltrimethoxysilane 1.33 part, then melt kneaded and cured in a mold at 120-150° to give a test piece with glass transition point 164° and moisture absorptivity after 100-h pressure-cooker test 2.30%, vs. 152 and 2.73, resp., for a control using  $\gamma$ -glycidoxypropyl-terminated di-Me siloxane instead of II.

IT 141105-63-7P

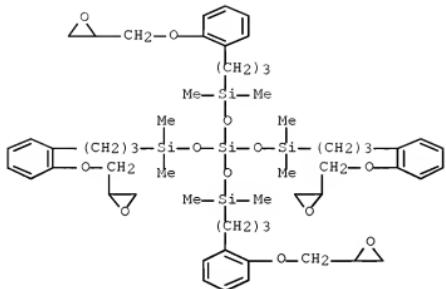
RL: PREP (Preparation)

(preparation of, elec. insulating, heat- and moisture-resistant, with good flexibility)

RN 141105-63-7 HCAPLUS

CN Formaldehyde, polymer with EOCN 1020, phenol and  
 3,3-bis[ $\{\text{dimethyl[3-[2-(oxiranylmethoxy)phenyl]propyl}silyl\}oxy\}-1,1,5,5-  
 \text{tetramethyl-1,5-bis[3-[2-(oxiranylmethoxy)phenyl]propyl}trisiloxane (9CI)  
 (CA INDEX NAME)$

CM 1

CRN 141102-04-7  
CMF C56 H84 O12 Si5

CM 2

CRN 104841-49-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 108-95-2  
CMF C6 H6 O

CM 4

CRN 50-00-0  
CMF C H2 O

H2C=O

IC ICM C08G059-32  
 CC 37-6 (Plastics Manufacture and Processing)  
 IT 141105-63-7P 141105-64-8P 141123-90-2P  
 RL: PREP (Preparation)  
 (preparation of, elec. insulating, heat- and moisture-resistant, with good flexibility)

L28 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1991:618890 HCAPLUS Full-text  
 DOCUMENT NUMBER: 115:218890  
 ORIGINAL REFERENCE NO.: 115:37169a,37172a  
 TITLE: Resist material containing siloxane novolak resin with oxygen-plasma resistance  
 INVENTOR(S): Noguchi, Tsutomu; Tomita, Hidemi  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03056964	A	19910312	JP 1989-193474	19890726 <--
PRIORITY APPLN. INFO.:			JP 1989-193474	19890726 <--

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The material contains siloxane polymer having unit I and/or II [R1, R9 = lower alkylene; R2-4, R10-12 = H, OH, Me, CH2OH; R5-8 = lower alkyl; R13 = CH2, CH2OCH2; A = phenol (having 1-3 substituted groups), Q1; R14 lower alkylene; R15-17 = lower alkyl; 0 < x ≤ 1; y = 0, 1-x] bonded with diazo compound. The material is used in manufacture of semiconductor integrated circuits and magnetic bubble memory devices, etc. A material containing III-m-chlorocresol-p-cresol-formalin copolymer esterified with naphthoquinonediazide-4-sulfonylchloride showed high resolution and O-plasma dry-etching resistance.

IT 136882-80-9

RL: USES (Uses)

(resist containing, for high resolution and dry-etching resistance)

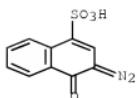
RN 136882-80-9 HCAPLUS

CN Formaldehyde, polymer with chloro-3-methylphenol, 4-methylphenol and 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)bis[phenol], 3-diazo-3,4-dihydro-4-oxo-1-naphthalenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 20680-48-2

CMF C10 H6 N2 O4 S

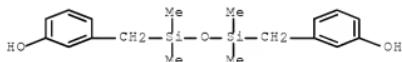


CM 2

CRN 189145-74-2  
 CMF (C18 H26 O3 Si2 . C7 H8 O . C7 H7 Cl O . C H2 O)x  
 CCI PMS

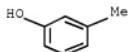
CM 3

CRN 117476-21-8  
 CMF C18 H26 O3 Si2



CM 4

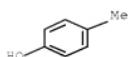
CRN 66749-51-7  
 CMF C7 H7 Cl O  
 CCI IDS



DI-Cl

CM 5

CRN 106-44-5  
 CMF C7 H8 O



CM 6

CRN 50-00-0  
CMF C H2 O

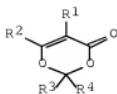
H2C=O

IC ICM G03F007-075  
 ICS G03F007-016; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 76  
 IT Resists  
 (photo-, dry etching-resistant, from siloxane group-containing novolak  
 resin)  
 IT 136882-80-9  
 RL: USES (Uses)  
 (resist containing, for high resolution and dry-etching resistance)

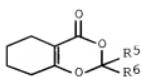
L28 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1991:418620 HCAPLUS Full-text  
 DOCUMENT NUMBER: 115:18620  
 ORIGINAL REFERENCE NO.: 115:3197a,3200a  
 TITLE: Photosensitive composition and pattern formation  
 method using it  
 INVENTOR(S): Onishi, Yasunobu; Niki, Hirokazu; Kobayashi,  
 Yoshihito; Hayase, Rumiko; Ushirogouchi, Toru  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Eur. Pat. Appl., 101 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 396254	A2	19901107	EP 1990-303556	19900403 <--
EP 396254	A3	19911113		
EP 396254	B1	19960710		
R: DE, FR, GB				
JP 02262151	A	19901024	JP 1989-81453	19890403 <--
JP 03011352	A	19910118	JP 1989-146503	19890608 <--
JP 03017652	A	19910125	JP 1989-150444	19890615 <--
JP 03017653	A	19910125	JP 1989-150445	19890615 <--
US 5091282	A	19920225	US 1990-504300	19900403 <--
PRIORITY APPLN. INFO.:				
		JP 1989-81453	A 19890403 <--	
		JP 1989-146503	A 19890608 <--	
		JP 1989-150444	A 19890615 <--	
		JP 1989-150445	A 19890615 <--	

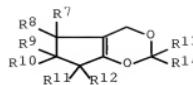
OTHER SOURCE(S): MARPAT 115:18620  
 GI



1



III



III

AB A photosensitive composition is described containing resin with a phenol skeleton and a compound from I, II, or III [R1, R2 = H, alkyl; R3, R4 = R1, aryl, furyl, pyridyl, 2-styrene, together may form a cyclic structure; R5, R6 = R3, R4; R7-R12 = R1; R13, R14 = R3, R4]. The phenol-containing polymer may contain Si. The composition may contain a basic compound A method of producing a pattern for semiconductor devices is also described. The composition can produce fine patterns.

119588-34-5

### BL: USES (Uses)

(photosensitive composition containing, for fine pattern formation)

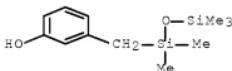
BN 119588-34-0 HCAPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethylsiloxy) methyl]phenol (9CI) (CA INDEX NAME)

CM 1

CRN 119588-33-9

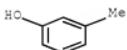
CMF C12 H22 Q2 Si2



CM 2

CRN 108-39-4

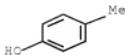
CMF C7 H8 O



CM 3

CRN 106-44-5

CMF C7 H8 O



CM 4

CRN 50-00-0  
CMF C H2 O

H2C=O

IC ICM G03F007-031  
 ICS G03F007-029  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST photosensitive compn patterning semiconductor; phenol resin silicon  
 photosensitive compn; resist dioxinone compn  
 photosensitive compn  
 IT Resists  
 (photo-, composition containing resin with phenolic skeleton and  
 dioxinone compound for)  
 IT 95-16-9, Benzothiazole 95-21-6 102-82-9 110-86-1, Pyridine, uses and  
 miscellaneous 120-75-2 288-32-4, 1H-Imidazole, uses and miscellaneous  
 615-15-6 1678-43-9 2799-82-8 2799-83-9 9016-83-5 24979-70-2  
 28637-54-9 32935-31-2 32935-37-8 32961-64-1 32961-66-3  
 34435-87-5 35563-21-4 35563-23-6 66003-76-7 66003-78-9  
 84563-54-2 87769-39-9 119588-34-0 127746-76-3  
 127746-77-4 134521-92-9 134521-93-0 134521-94-1 134521-95-2  
 134521-96-3 134521-97-4 134521-98-5 134521-99-6 134522-00-2  
 134522-01-3 134522-02-4 134522-03-5 134522-04-6 134522-05-7  
 134522-06-8 134563-67-0  
 RL: USES (Uses)  
 (photosensitive composition containing, for fine pattern formation)

L28 ANSWER 45 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1990:498225 HCPLUS [Full-text](#)  
 DOCUMENT NUMBER: 113:98225  
 ORIGINAL REFERENCE NO.: 113:16609a,16612a  
 TITLE: Silicone-epoxy compounds for heat- and moisture-  
 resistant cured compositions  
 INVENTOR(S): Ora, Akio; Hirose, Shoichi; Watanabe, Tetsuya  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 02069528  
PRIORITY APPLN. INFO.:  
GI

A 19900308

JP 1988-221556  
JP 1988-22155619880902 <--  
19880902 <--

AB Title epoxy-siloxane I (R = C1-4 alkyl, alkenyl, Ph; n = 2-1000) having good compatibility with crosslinking agents are prepared. Thus, 70 g o-allylphenyl glycidyl ether and 52 g 1,1,3,3,5,5,7,7-octamethyltetrasiloxane were treated in the presence of H2PtCl6 at 48-52° to give title epoxy-siloxane (II). A composition of II 83.8, 4,4'-diaminodiphenyl sulfone 11.2, and salicylic acid 5 parts was mixed at 150°, defoamed, and cast-molded at 180° for 5 h to give a test piece having water absorption 1.7% after pressure cooker test and 3.5% weight reduction at 30-300°, vs. 10.3 and 7.9, resp., for the test piece using Denacol EX 212 instead of II.

IT 128761-49-9P

RL: PREP (Preparation)

(preparation of, heat and moisture resistant, with flexibility)

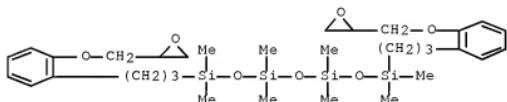
RN 128761-49-9 HCAPLUS

CN Benzenamine, 4,4'-sulfonylbis-, polymer with  
1,1,3,3,5,5,7,7-octamethyl-1,7-bis[3-(2-  
(oxiranylmethoxy)phenyl]propyl]tetrasiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 128761-48-8

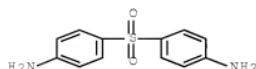
CMF C32 H54 O7 Si4



CM 2

CRN 80-08-0

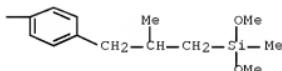
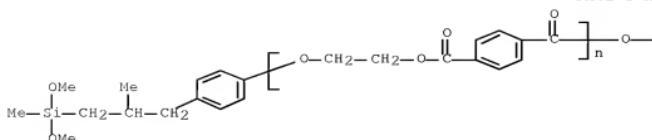
CMF C12 H12 N2 O2 S



IC ICM C08G077-14  
 ICS C08G059-22  
 CC 35-2 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 38  
 IT 128761-48-8P  
 RL: PREP (Preparation)  
 (preparation of, for heat- and moisture-resistant cured  
 compns.)  
 IT 128761-49-9P 128761-50-2P 128761-51-3P  
 128761-52-4P  
 RL: PREP (Preparation)  
 (preparation of, heat and moisture resistant, with flexibility)

L28 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1990:442552 HCAPLUS Full-text  
 DOCUMENT NUMBER: 113:42552  
 ORIGINAL REFERENCE NO.: 113:7237a,7240a  
 TITLE: Flexible solvent-resistant coating  
 compositions  
 INVENTOR(S): Ono, Ichiro; Yoshioka, Hiroshi; Mizuno, Takashi;  
 Yamakado, Nagahiko  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan; Natoco  
 Paint Co., Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

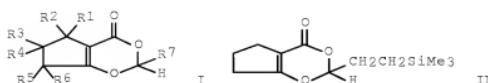
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01141964	A	19890602	JP 1987-299490	19871127 <--
PRIORITY APPLN. INFO.:			JP 1987-299490	19871127 <--
AB	Compns. giving coatings with excellent adhesion and weatherability comprise synthetic resins and modifiers containing A[SiR13-n(OR2)n]2 (A = organic group containing ester or ether bond; R1, R2 = C1-4 alkyl; n = 1-3). Thus, 300 g CH2:CHCH2(OC2.5H5)400CH2CH:CH2 was treated with 37.8 g HSi(OMe)3 in toluene in the presence of chloroplatinic acid to give 328.3 g (MeO)3Si(CH2)3(OC2.5H5)400(CH2)3Si(OMe)3 (I). A composition containing 100 parts Natoco Ceran White (acrylic-silicone coating) and 15 parts I was applied on a glass plate, a dull-finished steel plate, and an alkyd-melamine plate and dried 7 days at 20° and 65% relative humidity to form coatings with cross-cut adhesion 100/100, 100/100, and 100/100, resp., vs. 80/100, 50/100, and 50/100, resp., without I.			
IT	125350-43-8P, preparation			
RL: PREP (Preparation)				
	(preparation of, synthetic resin coatings containing, with improved adhesion and weatherability and flexibility)			
RN	125350-43-8 HCAPLUS			
CN	Poly(oxy-1,2-ethanediyl oxycarbonyl-1,4-phenylene carbonyl), $\alpha$ -[4-[3-(dimethoxymethylsilyl)-2-methylpropyl]phenyl]- $\omega$ -[4-[3-(dimethoxymethylsilyl)-2-methylpropyl]phenoxy]- (9CI) (CA INDEX NAME)			



IC ICM C09D007-12  
 CC 42-10 (Coatings, Inks, and Related Products)  
 IT 70776-52-2P 96591-81-0P 125337-97-5P 125337-98-6P 125337-99-7P  
 125338-00-3P 125350-42-7P 125350-43-8P, preparation  
 125350-44-9P 125362-40-5P 125371-38-2P 125548-51-8P  
 RL: PREP (Preparation)  
 (preparation of, synthetic resin coatings containing, with improved  
 adhesion and  
 weatherability and flexibility)

L28 ANSWER 47 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1990:432009 HCPLUS Full-text  
 DOCUMENT NUMBER: 113:32009  
 ORIGINAL REFERENCE NO.: 113:5351a,5354a  
 TITLE: Silicon-containing ultraviolet resists  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02003055	A	19900108	JP 1988-151777	19880620 <--
PRIORITY APPLN. INFO.:			JP 1988-151777	19880620 <--
OTHER SOURCE(S):	MARPAT	113:32009		
GI				



AB UV resists contain alkali-soluble phenolic polymers and Si-containing compds. I (R1-6 = H, Cl-10-(substituted) alkyl; R7 = Si-containing organic group). These resists are resistant to reactive ion etching, developable with alkaline aqueous solns., and may be used in bilevel resists. Thus, a solution of 70 g diphenylpolysiloxane and 30 g II in Et cellosolve acetate was coated on novolak resist layer on Si wafer, dried, prebaked, and patternwise exposed with KrF excimer laser beam. Resist developed with aqueous Me4NOH was etched with reactive ion using O<sub>2</sub>, to obtain pattern with 2.3-μm thickness and 0.3-μm line-and space.

IT 119588-34-0

RL: USES (Uses)

(photoresists containing organic silicon compds. and, for etching-resistance)

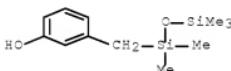
RN 119588-34-0 HCPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethyldisiloxanyl)methyl]phenol (9CI) (CA INDEX NAME)

CM 1

CRN 119588-33-9

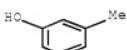
CMF C12 H22 O2 Si2



CM 2

CRN 108-39-4

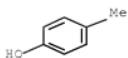
CMF C7 H8 O



CM 3

CRN 106-44-5

CMF C7 H8 O



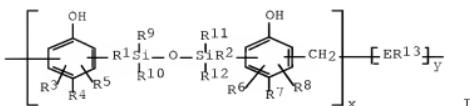
CM 4

CRN 50-00-0  
CMF C H2 OH<sub>2</sub>C=O

IC ICM H01L021-30  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resist  
 (photo-, deep-UV, silicon-containing, etching-resistant)  
 IT 24979-70-2, Poly(p-vinylphenol) 119588-34-0  
 RL: USES (Uses)  
 (photoresists containing organic silicon compds. and, for etching-  
 resistance)

L28 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1990:243087 HCAPLUS Full-text  
 DOCUMENT NUMBER: 112:243087  
 ORIGINAL REFERENCE NO.: 112:40855a,40858a  
 TITLE: Negative-working photoresist composition  
 INVENTOR(S): Noguchi, Tsutomu; Miyashita, Mayumi  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
----- JP 01206330	----- A	----- 19890818	----- JP 1988-32142	----- 19880215 <--
PRIORITY APPLN. INFO.: GI			----- JP 1988-32142	----- 19880215 <--



AB The title photoresist composition contains a Si polymer (weight-average mol. weight 3000-30,000) containing I [R1, R2 = alkylene; R3-8 = H, OH, Me, CH2OH; R9-12 = lower alkyl; R13 = CH2, CH2OCH2; E = phenol, 1-3-substituted phenol] and an aromatic azido compound sensitive to  $\leq 300$  nm. The photoresist composition shows good resistance to plasma etching.

IT 117476-22-9

RL: USES (Uses)

(neg.-working photoresist containing)

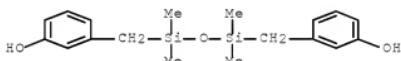
RN 117476-22-9 HCPLUS

CN Formaldehyde, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 117476-21-8

CMF C18 H26 O3 Si2



CM 2

CRN 50-00-0

CMF C H2 O



IC ICM G03C001-71  
ICS G03C001-71

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

IT Resist

(photo-, neg., containing silicon-containing phenolic resins)

IT 7300-27-8 117476-22-9

RL: USES (Uses)

(neg.-working photoresist containing)

L28 ANSWER 49 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1990:45711 HCPLUS Full-text

DOCUMENT NUMBER: 112:45711

ORIGINAL REFERENCE NO.: 112:7715a,7718a

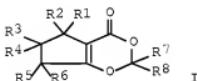
TITLE: Silicon-containing ultraviolet photoresists

INVENTOR(S): Oonishi, Kyonobu; Hayase, Shuji; Horiguchi, Rumiko; Gokochi, Tooru

PATENT ASSIGNEE(S): Toshiba Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01159638	A	19890622	JP 1987-317857	19871216 <--
PRIORITY APPLN. INFO.:			JP 1987-317857	19871216 <--
GI				



AB Alkali-soluble Si-containing polymers with phenolic groups and compds. I (R1-6 = H, C1-10 alkyl; R7-8 = H, C1-10 alkyl, aryl, furyl, pyridyl, 2-styryl) are contained in UV photoresists. The photoresists are developable with alkaline aqueous solns., produce patterns resistant to reactive ion etching, and can be used in bilevel resists to produce fine patterns. Thus, a solution containing 70 g phenyl(m-hydroxyphenyl)siloxane and 30 g I (R1-7 = H; R8 = 2-furyl) in Et Cellosolve acetate was applied on a 2-μm-thick layer of a novolak photoresist on a Si wafer and dried to form a 0.6-μm-thick layer. Patternwise exposure to a KrF excimer laser beam (200 mJ/cm<sup>2</sup>) and development in 1% Me<sub>4</sub>NOH gave a resist pattern. Reactive ion etching with O produced a pattern with a 0.3-μm line and space and a 2.3-μm height, with a sharp rectangular profile.

IT 119588-34-0

RL: USES (Uses)

(deep-UV photoresists containing photosensitive agents and)

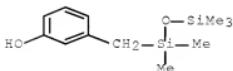
RN 119588-34-0 HCPLUS

CN Formaldehyde, polymer with 3-methylphenol, 4-methylphenol and 3-[(pentamethylsiloxy) methyl]phenol (9CI) (CA INDEX NAME)

CM 1

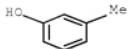
CRN 119588-33-9

CMF C12 H22 O2 Si2

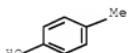


CM 2

CRN 108-39-4  
 CMF C7 H8 O



CM 3  
 CRN 106-44-5  
 CMF C7 H8 O



CM 4  
 CRN 50-00-0  
 CMF C H2 O



IC ICM G03C001-71  
 ICS G03C001-00; G03C005-16; H01L021-30  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT Resists  
 (photo-, deep-UV, containing silicon-containing phenolic resins)  
 IT 119588-34-0  
 RL: USES (Uses)  
 (deep-UV photoresists containing photosensitive agents and)  
 L28 ANSWER 50 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1989:622152 HCPLUS Full-text  
 DOCUMENT NUMBER: 111:222152  
 ORIGINAL REFERENCE NO.: 111:36733a,36736a  
 TITLE: Photosensitive composition containing azide compound  
 for high-precision pattern  
 INVENTOR(S): Horiguchi, Rumiko; Hayase, Shuzi; Onishi, Yasunobu;  
 Ushirogouchi, Toru  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Ger. Offen., 36 pp.  
 CODEN: GWXXBX

DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3841571	A1	19890629	DE 1988-3841571	19881209 <--
JP 01154047	A	19890616	JP 1987-312657	19871210 <--
JP 01154048	A	19890616	JP 1987-312658	19871210 <--
JP 01161336	A	19890626	JP 1987-320414	19871218 <--
JP 01241544	A	19890926	JP 1988-68387	19880323 <--
DE 3844739	C2	19950907	DE 1988-3844739	19881209 <--
PRIORITY APPLN. INFO.:			JP 1987-312657	A 19871210 <--
			JP 1987-312658	A 19871210 <--
			JP 1987-320414	A 19871218 <--
			JP 1988-68387	A 19880323 <--
			DE 1988-3841571	A3 19881209 <--

AB A photosensitive composition is described containing an alkali-soluble resin, optionally a Si-containing resin, and a compound sensitive to 248 nm deep UV radiation and having the formula R1COC(N2)COR2 [I; R1, R2 = C1-20 alkyl or alkoxy, aryl, aryloxy, anilino]. Optionally the photosensitive compds. are Si-containing compds. of the formula R2R3R4 SiC(N2)R1 [R1-R4 = H, C1-10 alkyl, aryl, silyl]. The preferred compds. of the formula I are aromatic compds. in which  $\geq 1$  benzene ring is substituted with  $\geq 1$  O2CC(N2)COMe group.

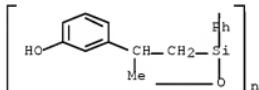
IT 123710-88-3

RL: USES (Uses)

(binder, for deep UV photoresist)

RN 123710-88-3 HCPLUS

CN Poly[oxy[[2-(3-hydroxyphenyl)propyl]phenylsilylene]] (9CI) (CA INDEX NAME)



IC ICM G03F007-10

ICS G03F007-08; C08L025-18; C08L061-04

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Resists

(photo-, deep UV, azides for)

IT 25086-15-1, Methacrylic acid-methyl methacrylate copolymer 27029-76-1

59269-51-1, Polyvinylphenol 72317-19-2 85229-30-7,

Acrylonitrile-isopropenylphenol copolymer 100346-90-5,

m-Cresol-p-cresol-formaldehyde-2,5-xylenol copolymer 102868-49-5

104426-15-5 104426-16-6 111634-04-9 112504-03-7,

m-Cresol-p-cresol-formaldehyde-3,5-xylenol copolymer 123710-88-3

123737-03-1 123737-04-2 123737-05-3 123737-07-5 123737-09-7

RL: USES (Uses)

(binder, for deep UV photoresist)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 51 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1989:564243 HCPLUS Full-text  
 DOCUMENT NUMBER: 111:164243  
 ORIGINAL REFERENCE NO.: 111:27213a,27216a  
 TITLE: Etching-resistant photoresist  
 compositions  
 INVENTOR(S): Noguchi, Tsutomu  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01093736	A	19890412	JP 1987-251395	19871005 <--
PRIORITY APPLN. INFO.:			JP 1987-251395	19871005 <--
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB In the title compns. containing tri- and tetraesters of 1,2-naphthoquinonediazide-5-sulfonic acid and Si-containing polymers, the latter are I and/or II (R1, R2 = lower alkylene; R3-R8 = H, OH, Me, methyol; R9-R12 = lower alkyl; R13 = methylene,  $\text{CH}_2\text{OCH}_2$ ; Z = a phenol unit, a phenol unit with 1-3 substituents, III; R14 = lower alkylene; R15-R17 = lower alkyl;  $0 < x \leq 1$ ;  $y = 1-x$ ). High resolution and resistance to dry etching are obtained. Thus, a polymer corresponding to I was obtained by polymerization of IV and HCHO in Et cellosolve and oxalic acid. A solution containing the above polymer and the triester of 2,3,4-trihydroxybenzophenone with 1,2-naphthoquinonediazide 5-sulfonic acid in Et cellosolve acetate was coated on a QFPR-800 (com. resist) layer formed on a Si wafer to obtain a bilevel resist. The resist pattern obtained by exposure and development resolved 0.5- $\mu\text{m}$  line-and-space. By reactive ion etching with O<sub>2</sub>, the ratio of the etching rates of the pattern and the lower layer was 1:20, and a fine pattern with a rectangular profile was obtained.

IT 117476-22-9

RL: USES (Uses)  
 (photoresist containing, etching-resistant)

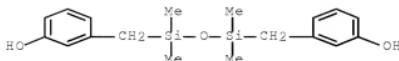
RN 117476-22-9 HCPLUS

CN Formaldehyde, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)]bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 117476-21-8

CMF C18 H26 O3 Si2



CM 2

CRN 50-00-0  
CMF C H2 O

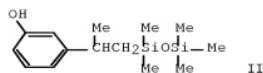
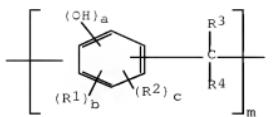
H2C=O

IC ICM G03C001-72  
 ICS G03F007-08  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT Resist  
 (photo-, siloxane-containing phenolic resin for etching-resistant)  
 IT 117476-22-9  
 RL: USES (Uses)  
 (photoresist containing, etching-resistant)

L28 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1989:125491 HCAPLUS Full-text  
 DOCUMENT NUMBER: 110:125491  
 ORIGINAL REFERENCE NO.: 110:20537a,20540a  
 TITLE: Photosensitive coating composition containing  
 silicon-containing polymer  
 INVENTOR(S): Horiguchi, Rumiko; Hayase, Shuzi; Onishi, Yasunobu  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Ger. Offen., 44 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3810247	A1	19881006	DE 1988-3810247	19880325 <--
DE 3810247	C2	19930128		
JP 63237052	A	19881003	JP 1987-72113	19870326 <--
JP 01088447	A	19890403	JP 1987-245497	19870929 <--
JP 01107254	A	19890425	JP 1987-263965	19871021 <--
US 5063134	A	19911105	US 1990-455783	19900102 <--
PRIORITY APPLN. INFO.:			JP 1987-72113	A 19870326 <--
			JP 1987-245497	A 19870929 <--
			JP 1987-263965	A 19871021 <--
			US 1988-173546	B1 19880325 <--

GI



AB The title composition contains a photosensitive material and a polymer having recurring units of the formula I [R1-R4 = H, alkyl, alkoxy, alkyl;  $\geq 1$  of R1-R4 is a Si-containing C1-10 alkyl group; m = pos. integer; a, b = 1-3; c = 0-2; a + b + c  $\leq 4$ ]. The material has improved resistance to O plasma and can be used in photolithographic applications. Thus, a mixture of II-m-cresol-p-cresol-HCHO copolymer and 2,3,4-trihydroxybenzophenone bis(1,2-naphthoquinone-2-diazido-5-sulfonate) was used to form a photoresist layer.

IT 119588-30-6

RL: USES (Uses)  
(photoresist containing)

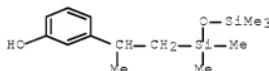
RN 119588-30-6 HCAPLUS

CN Formaldehyde, polymer with 1,4-benzenediol and  
3-[1-methyl-2-(pentamethylsiloxyethyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 119564-73-7

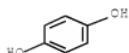
CMF C14 H26 O2 Si2



CM 2

CRN 123-31-9

CMF C6 H6 O2



CM 3

CRN 50-00-0

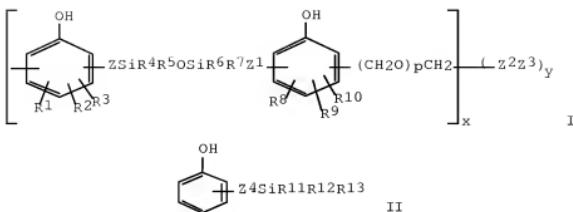
CMF C H2 O

H<sub>2</sub>C=O

IC ICM G03F007-00  
 ICS G03F007-08; G03C001-72  
 ICA C08L061-04; C09D003-54; C09D003-81; H01L021-312  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resists  
 (photo-, silicon-containing polymer for)  
 IT 119588-16-8 119588-17-9 119588-19-1 119588-20-4 119588-21-5  
 119588-23-7 119588-25-9 119588-27-1 119588-29-3  
 119588-30-6 119588-31-7 119588-32-8 119588-34-0  
 119588-35-1 119608-20-7 119608-22-9  
 119608-23-0 119608-25-2 119608-27-4  
 119608-29-6 119608-31-0 119608-32-1 119608-33-2  
 119608-34-3 119608-35-4 119608-37-6 119608-38-7 119608-40-1  
 RL: USES (Uses)  
 (photoresist containing)  
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)  
 REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1989:31421 HCAPLUS Full-text  
 DOCUMENT NUMBER: 110:31421  
 ORIGINAL REFERENCE NO.: 110:5141a,5144a  
 TITLE: Organosilicon polymer-containing photoresist material  
 INVENTOR(S): Noguchi, Tsutomu; Nito, Keiichi; Seto, Junetsu  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Ger. Offen., 9 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3726858	A1	19880225	DE 1987-3726858	19870812 <--
DE 3726858	C2	19961121		
JP 63044652	A	19880225	JP 1986-189821	19860813 <--
JP 07072799	B	19950802		
GB 2196975	A	19880511	GB 1987-18598	19870806 <--
GB 2196975	B	19900912		
US 4865945	A	19890912	US 1987-83640	19870810 <--
PRIORITY APPLN. INFO.:			JP 1986-189821	A 19860813 <--
OTHER SOURCE(S):	CASREACT 110:31421			
GI				



AB A photoresist material is described which contains a polymer having  $\geq 1$  repeating unit of the formula I (R1,R2,R3,R8,R9,R10 = H, OH, Me, or CH<sub>2</sub>OH; R4-R7 = lower alkyl; Z, Z1 = lower alkylene; Z2 = a phenol moiety, a substituted phenol moiety, or a group of the formula II where R11,R12,R13 = lower alkyl and Z4 = lower alkylene; Z3 = CH<sub>2</sub> or CH<sub>2</sub>OCH<sub>2</sub>; p = 0 or 1; x = 0-1; y = 0-1-x) along with a quinone diazide sensitizer. Thus, a solution containing HCHO (37% aqueous soln), III, oxalic acid dihydrate, Et cellosolve acetate was heated to give a polymer which showed an etch speed of 7.8 nm/min in a reactive etching process.

IT 117476-22-9P

RL: PREP (Preparation)

(preparation and photoresist compns. containing)

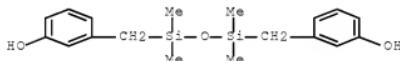
RN 117476-22-9 HCPLUS

CN Formaldehyde, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)]bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 117476-21-8

CMF C18 H26 O3 Si2



CM 2

CRN 50-00-0

CMF C H2 O

H2C=O

IC ICM G03F007-10

ICS C08L083-04; H01L021-312; G03C001-72  
 ICA G03F007-16; G11C011-14  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT Resist  
 (photo-, organosilicon polymer-containing)  
 IT 117476-22-9P 117992-07-1P 118037-21-1P  
 RL: PREP (Preparation)  
 (preparation and photoresist compns. containing)  
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 54 OF 54 HCPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1988:619445 HCPLUS Full-text  
 DOCUMENT NUMBER: 109:219445  
 ORIGINAL REFERENCE NO.: 109:36151a,36154a  
 TITLE: A novel silicon-containing resist for a bilayer resist  
 system

AUTHOR(S): Noguchi, Tsutomu; Nito, Keiichi; Seto, Junetsu; Hata, Izumi; Sato, Hiroshi; Tsumori, Toshiro

CORPORATE SOURCE: Res. Cent., Sony Corp., Yokohama, 240, Japan

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1988), 920(Adv. Resist Technol. Process. 5), 168-75

CODEN: PSISDG; ISSN: 0277-786X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new pos. working photoresist which is applicable to the bilayer resist system using a current g-line stepper was developed. This resist consists of a naphthoquinone diazide photoactive compound and a Si-containing novolak resin, which is synthesized from phenols with siloxane groups (-Si-O) and formaldehyde by condensation reaction. The Si-containing resist has a resolution capability of 0.5  $\mu$ m L/S with a g-line sensitivity about 250 mJ/cm<sup>2</sup> and a high resistance to O plasma, with an etching rate ratio of 61:1 (photoresist/Si resist). A 0.5  $\mu$ m L/S pattern was precisely transferred to the bottom layer by O RIE with vertical side walls.

IT 117476-22-9

RL: USES (Uses)

(submicron photoresist composition containing naphthoquinonediazide trihydroxybenzophenone ester and)

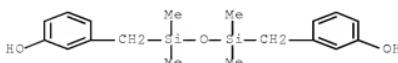
RN 117476-22-9 HCPLUS

CN Formaldehyde, polymer with 3,3'-[ (1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis(methylene)]bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 117476-21-8

CMF C18 H26 O3 Si2



CM 2

CRN 50-00-0  
CMF C H<sub>2</sub> O

H<sub>2</sub>C=O

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
IT Resists  
(photo-, polymeric silicon-containing, containing naphthoquinonediazide  
sensitizer, for submicron lithog.)  
IT 117476-22-9  
RL: USES (Uses)  
(submicron photoresist composition containing naphthoquinonediazide  
trihydroxybenzophenone ester and)

10/593004

\*\*\*\*\* SEARCH HISTORY \*\*\*\*\*

⇒ a his nof

(FILE 'HOME' ENTERED AT 13:00:07 ON 27 JUL 2009)

FILE 'HCAPLUS' ENTERED AT 13:00:18 ON 27 JUL 2009

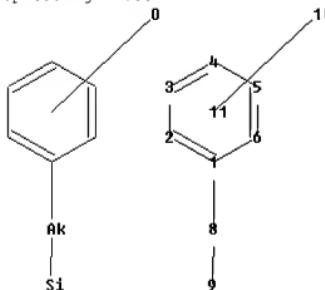
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D IALL  
SEL PN

FILE 'REGISTRY' ENTERED AT 13:01:45 ON 27 JUL 2009  
L2 9 SEA ABB=ON PLU=ON (138529-81-4/B1 OR 144317-44-2/B1 OR  
17464-88-9/B1 OR 188557-77-9/B1 OR 3089-11-0/B1 OR 357164-86-4/  
BI OR 4356-60-9/B1 OR 475115-04-9/B1 OR 66003-78-9/B1)  
D SCAN

FILE 'STNGUIDE' ENTERED AT 13:03:03 ON 27 JUL 2009

FILE 'REGISTRY' ENTERED AT 13:11:50 ON 27 JUL 2009  
L3 STRUCTURE UPLOADED  
D

### Uploading L1.str



```

chain nodes :
 8 9 10
ring nodes :
 1 2 3 4 5 6
chain bonds :
1-8 8-9
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
1-8 8-9
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
isolated ring systems :
containing 1 :

```

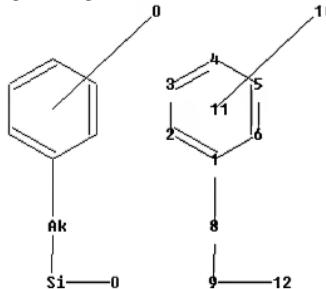
10/593004

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:Atom

L4 19 SEA SSS SAM L3  
L5 5614 SEA SSS FUL L3  
L6 2 SEA ABB=ON PLU=ON L5 AND L2  
D SCAN  
SAVE TEMP L5 LEE004REGL1/A  
L7 STRUCTURE UPLOADED  
D

FILE 'REGISTRY' ENTERED AT 14:09:35 ON 27 JUL 2009  
L8 STRUCTURE UPLOADED  
D

Uploading L2.str



chain nodes :

8 9 10 12

ring nodes :

1 2 3 4 5 6

chain bonds :

1-8 8-9 9-12

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

1-8 8-9

exact bonds :

9-12

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:Atom

12:CLASS

Element Count :

Node 8: Limited

C,Cl-5

L9 50 SEA SUB=L5 SSS SAM L8  
 L10 SCR 2043  
 L11 43 SEA SUB=L5 SSS SAM L8 AND L10  
 L12 1099 SEA SUB=L5 SSS FUL L8 AND L10  
 L13 2 SEA ABB=ON PLU=ON L12 AND L2  
 SAVE L12 LEE004REGL2/A

FILE 'HCAPLUS' ENTERED AT 14:12:25 ON 27 JUL 2009

L14 594 SEA ABB=ON PLU=ON L12  
 L15 483 SEA ABB=ON PLU=ON L14 AND (AY<2005 OR PY<2005 OR PRY<2005)  
 L16 278 SEA ABB=ON PLU=ON L15 AND 74/SC,SX  
 L17 QUE ABB=ON PLU=ON POLYMER OR COPOLYMER TERPOLYMER OR RESIN  
 OR HOMOPOLYMER  
 L18 228 SEA ABB=ON PLU=ON L16 AND L17  
 E RESISTS/CT  
 E E3+ALL  
 L19 26352 SEA ABB=ON PLU=ON RESISTS+OLD,UF/CT  
 L20 27 SEA ABB=ON PLU=ON L16 AND L19  
 L21 2536 SEA ABB=ON PLU=ON PHOTO (W) (RESIST? OR SENSITIV?)  
 L22 0 SEA ABB=ON PLU=ON L16 AND L21  
 L23 0 SEA ABB=ON PLU=ON L15 AND L21  
 L24 1864647 SEA ABB=ON PLU=ON RESIST?  
 L25 112 SEA ABB=ON PLU=ON L16 AND L24  
 L26 65758 SEA ABB=ON PLU=ON RESIST? (2A) (COMPOSITION? OR SOLUTION? OR  
 FORMUL? OR ELECTRON BEAM?)  
 L27 36 SEA ABB=ON PLU=ON L15 AND L26  
 L28 54 SEA ABB=ON PLU=ON L20 OR L27  
 SAVE TEMP L28 LEE004HCAP/A  
 D QUE L28  
 D L28 1-54 IBIB ABS FHITSTR HITIND